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THE PROGRESS IN THE DIAGNOSIS AND TREATMENT OF AFFECTIONS OF THE THROAT, NOSE, AND EAR DURING THE PAST TWENTY YEARS.

The Presidential Address, delivered on October 9th, 1901, at the Opening of the Twenty-eighth Session of the Bristol Medico-Chirurgical Society.

BY

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I PROPOSE to put before you a few points in connection with the progress that has taken place in the diagnosis and treatment of disease of the throat, nose, and ear, in which I have been especially interested for the past twenty years. Before, however, proceeding to this my main subject, I may incidentally remark on the great increase in the facilities for studying these organs which has taken place during that time. At the beginning of this period, the British Medical Association did

not devote a section to laryngology and otology; now this section is as important as any. Then the clinical teaching from patients affected with diseases of the throat, nose, and ear in the metropolis, and all large provincial towns, was mos rudimentary and imperfect. It was left to the general surgeons and physicians, who, in the rush of other work, were unable to devote much time to it. The laryngoscope was used by but few men in the country, and it was possible for a man to get his degree in any of our Universities, and never to have seen the vocal cords, to know nothing of the interior of the nose and its communicating sinuses, except anatomically. The existence of the lingual and naso-pharyngeal tonsils was not widely known, and the graduate might never have seen an operation for the removal of adenoid vegetations during his student days. I freely confess that this was my condition of crass ignorance when I entered the profession in 1881. I first saw the vocal cords, and watched with puzzled interest the insertion of Löwenberg's forceps behind the palate for the removal of adenoids, when a student in Schrötter's Clinique in Vienna in 1883. The accurate examination of the interior of the nose was quite impossible to me, and a considerable time elapsed before I was able to explore that *terra incognita*. It may be that I emerged from the teaching and examining mill less well prepared for the work before me than other men in this room who are my contemporaries, but I am inclined to believe that I was a fairly well-educated graduate. Men who have entered the profession during the past few years know how greatly this is altered. In London, special departments exist in all large general hospitals, several special hospitals and dispensaries have been established, and three flourishing societies which deal exclusively with these cases hold regular meetings. In every large provincial town in the country we find the same thing. Having had the opportunity of meeting in consultation a good many of my medical brethren, I know how increasingly keen is the interest which the profession at large takes in this subject.

During the time under our consideration, pathology, surgical methods, and therapeutics have made enormous strides. Bacteriological investigation, now so generally carried out, was

practically born when Koch discovered the bacillus of tubercle in 1882, and we know how marvellously our knowledge of the causes of disease has been added to and made accurate by that discovery, and by the isolation of many other pathogenic organisms since that time. The whole domain of medicine and surgery has derived benefit from these discoveries, and in no portion of it is this more marked than in my special branch of professional work. Another discovery which has been of incalculable benefit to the laryngologist and rhinologist, without which, indeed, a large amount of our diagnostic and operative work could not be done, is that of cocaine in 1883. This has been followed by several other drugs of a kindred character, such as eucaine, orthoform, etc. More recently, we have used with much benefit—for the purpose of producing anæmia of the erectile tissues of the nose, and for preventing or stopping hemorrhage for diagnostic and operative purposes—extract of suprarenal capsule, a valuable representative of a class of drugs previously unknown to us.

Nowadays, the galvano-cautery has largely superseded all forms of mineral caustics, and, from its much greater controllability, is a safer and more efficient means of destroying redundant tissue, especially in narrow cavities such as the nostrils, glottis, etc. In his day, Morell Mackenzie was the most highly-educated rhinologist we had, but it is instructive to notice how very imperfect his knowledge of the nose and its cavities—as shown in his classical work, edition 1880—was as compared with ours. Just as charity is said to cover a multitude of sins, so catarrh was made to include many different affections of the nose, a prominent symptom of which was discharge. Little or no attempt was made to determine, by accurate observation, its character; still less was the exact point of its issue determined by examination of the interior of the nostril. "Purulent rhinitis" was the term often given to a fœtid purulent discharge coming from one or other of the sinuses. Great advance has been made in the systematic examination of the sinuses, and of their treatment when diseased. The antrum has been opened through the alveolus since John Hunter's day; but tapping it through the outer wall

of the nostril by Krause's trochar, or through the canine fossa, or through both situations at the same time, is, comparatively speaking, recent, and is sometimes the only method of curing empyema with polypi, &c., in the cavity. The frontal sinus has been opened from the outside for many years past; but the rule laid down only a few years ago, that a very large opening must be made into the nose if perfect drainage and cessation of purulent discharge are to be obtained, must be looked upon as up-to-date frontal sinus surgery. The ethmoid cells we now recognise as a fertile ground for the production of pus and polypi, and we are constantly breaking them down for the cure of these troubles. The sphenoidal sinus which, not long ago, was declared by a well-known surgeon and anatomist, after experiments on the cadaver, to be unenterable by a probe, can, we now know, in certain cases, and especially if atrophic rhinitis be present, be explored and treated. This will, however, never be an easy operation, and in other than very expert hands may easily become a dangerous one. In helping us to come to a definite conclusion as to affections of the antrum and frontal sinus, we find trans-illumination by a Voltolini lamp, formerly not generally used, but now rarely omitted, of great value. My own experience of the result of operations on these sinuses for empyema tells me that success can by no means always be assured even when the operations are done by most experienced hands, but the earlier the mischief is recognised and the operation performed, the more likely are we to be successful.

Another thing that must strike all of us is the importance now attached to nasal respiration. Twenty years ago little or no attention was paid to this; now nearly everyone, professional and lay, is keenly alive to its importance. This naturally has led to the careful examination of the interior of the nose and naso-pharynx. We find that obstruction to nasal breathing occurs from deviation and spur of the nasal septum, hypertrophy of the middle and inferior turbinated bodies, polypi, cystic condition of the middle turbinates, of which I have had some notable examples in my own practice, hypertrophy of the posterior end of the inferior turbinates, the so-called "moriform"

growths, and adenoid vegetations in the naso-pharynx. The nasal saw and trephine are extensively used for the removal of bony growth, the spoke-shave for cartilaginous spurs and hypertrophied turbinates, and the galvano-cautery has largely displaced mineral caustics as formerly used. I have seen several instances of bridges between the septum and inferior turbinate caused by the careless use of caustics, and I never omit seeing a patient within a few days after the use of the galvano-cautery, to satisfy myself that I have not caused rawing of apposed surfaces which might lead to junction. For septal deviation, Asch's method of breaking the septum in attempting its replacement is a great advance on old methods. The latest operative procedure for the radical removal of nasal polypi consists in removing bone as well as soft tissue; and if we do not attempt this, we must thoroughly cauterise the stumps, or inevitably get the frequent recurrence of older days. It is very surprising to me to find how frequently "moriform" growths are unrecognised, presumably from too infrequent use of the posterior rhinoscopic mirror. Their removal by means of snare or guillotine gives splendid results where they are the cause of obstructed nasal breathing. If adenoids are not in everybody's mouth, the word is, and I shall not weary you by enumerating the many troublesome symptoms that arise from their presence. Fortunately, the man who denies their existence or who pretends he can get rid of them without operation is a *rara avis*. As well try to coax water out of a bottle without drawing the cork, as air through the nose and into the lungs of a person whose naso-pharynx is packed with adenoids without removing them. Seeing that in examining with the finger and in operating on them we are crushing tissues close to the mouth of the Eustachian tubes, it is not surprising that suppurative otitis is the penalty that the patient often pays from neglect of cleanliness and delicacy on the part of the operator. Small though this operation may be, care at the time, and afterwards, is extremely important.

The question of nasal reflexes, raised so prominently by Hack, has been much discussed during the time under review. Paroxysmal sneezing, sudden blocking up of the nostrils by

swelling of the turbinated bodies, nasal hydrorrhœa followed by a short, dry, strangling cough, difficulty of breathing, and wheezing, are commonly observed reflex phenomena. Various irritants, from much-talked-of hay down to ordinary dust, alcohol, tobacco, etc., will set agoing this disagreeable train of symptoms in some people. It is interesting to note that salicylates have been strongly recommended in hay fever, and experience teaches that a gouty and rheumatic dyscrasia render a person more liable to trouble from irritable nasal mucous membrane than others. I have just lately seen a lady whom her medical man greatly benefited by administering salicylate of soda and morphia for the relief of extremely bad attacks of nasal irritability. I thoroughly cauterised both nostrils, and she is practically cured; and we must believe that whilst he treated her constitutional disabilities, I destroyed the sensibility of her nasal nerves, and this is certainly excellent collaboration. I cannot agree with Bosworth that a great proportion of cases of asthma are directly due to nasal abnormality, and can be cured by its rectification, because there are doubtless many causes of this affection. At the same time, I consider that the examination of an asthmatic patient is not complete without investigation of the interior of the nose, and over 50 per cent. of these patients will be found to have some unhealthy condition of its mucous membrane or bony and cartilaginous framework. Whilst it is not fair to promise cure, or even relief, of asthma from local treatment, at the same time we often obtain most satisfactory, and sometimes brilliant, results from it, and it is our duty to put the matter fairly before the patient. One of my own children suffered from asthma as badly as anyone I ever saw; I removed adenoids nine years ago, and she has never had an attack since the operation.

Our opinions have been greatly modified as regards the causation of inflammation, with thickening of tissue, granulations, &c., in the pharynx and larynx, because we now recognise the very important rôle that obstructive affections of the nose play in determining this, and that to cure a pharyngitis or laryngitis when chronic, we must usually get the nose right, if necessary by operation.

As regards the tonsils, we now have to recognise four—*i.e.*, two faucial, a naso-pharyngeal, and a lingual one. Within the past twenty years we have come to the conclusion that acute tonsillitis is frequently of rheumatic origin, and from other accompanying symptoms, this suggests the further idea of the pyæmic origin of both joint and tonsil inflammation. We find that the lingual tonsil is liable to the same affections as the others, although acute suppuration is, in my experience, extremely rare. On the other hand, chronic hypertrophy is quite common, and I am sure that many so-called cases of *globus hystericus* are, in reality, instances of this enlargement. The symptoms presented are somewhat alike, the patients are much more often women than men, are usually neurotic, and, unless one is alive to the possibility of affections of this gland setting up the symptoms we observe, injustice may be done to the patient and suitable treatment of an operative character delayed. In operations for its removal, especially where the galvano-cautery is used, great care must be taken not to injure the epiglottis, or serious and rapidly-occurring œdema may result, of which I have seen one case, happily not in my own practice.

Diphtheria is a disease which, in these later years, is much more accurately diagnosed and satisfactorily treated, both from the preventive and curative standpoint, than formerly. Owing to the systematic culture and examination of exudates, doubtless the number of cases notified to the Sanitary Authorities is greater than would have appeared in the days when the clinical symptoms alone were relied on. But allowing for milder cases, which might have escaped recognition, now coming under treatment, we yet are quite sure that our present-day therapeutic methods are much more successful than formerly. Not long ago I had a case of middle ear disease. During its progress the patient developed an exudation on the palate and uvula that looked like thrush. A swabbing was sent to the laboratory of our late distinguished president, Dr. D. S. Davies, and another was examined by Dr. Symes, both of whom found the bacilli of diphtheria. The exudate passed away in a day or two, and left no traces behind it; then it reappeared and again disappeared,

and so on. It behaved, in fact, utterly unlike what one would expect a diphtheritic membrane to do, but the patient ultimately died after very slight exertion in her bedroom. Being puzzled as to the source of the infection, I made enquiry and found that the patient's son had had a sore throat some time before, of so trivial a character that he was not seen by a doctor, and she had nursed him. After her death I saw him for an abscess in the forehead—on opening which, necrosis of the frontal bone over the sinus was found to have taken place with communication into the nose. The boy told me that he had had a discharge of blood from the nostrils whilst his throat was sore, and I believe that he had diphtheria and infected his mother. I am quite sure that no one from seeing the mother's throat would have diagnosed diphtheria, bacteriological examination alone enabling us to do so.

From the *resumé* of Professor Sims Woodhead's "Report on the Bacteriological Diagnosis and the Antitoxic Serum Treatment, cases admitted to the Hospitals of the Metropolitan Asylums Board, 1895 and 1896," published in the *British Medical Journal*,[1] we read as follows:—

"RESULTS OF ANTITOXIN TREATMENT.

"Of the 2,503 cases under 5 years of age in which diphtheria bacilli were found, only 31.5 per cent. died, against 47.4 per cent. in the pre-antitoxin period. In 1895, in cases in which the fauces alone were affected, the percentage fatality was 12.1; when fauces and nares, 39.5; fauces and larynx, 37.3; larynx alone, 30.7; when all three, 62.2 per cent. In 1896, when the antitoxin treatment had improved, a considerable fall in the fatality occurred. In the pre-antitoxin year 1894 there were 261 tracheotomies, with a fatality of 70.4 per cent. In 1896, with 246 tracheotomies, the fatality was 41.4 per cent."

These statistics show that the free use of antitoxin does not increase the percentage of cases of albuminuria. Among the cases of paralysis following diphtheria, the fatality (32 per cent.) was higher among those not injected with antitoxin than among

[1] *Brit. M. J.*, 1896, i. 855, 926, 937.

those where antitoxin was used (30.5 per cent.), although the former "must be looked upon as being the result of comparatively mild attacks of the disease" not necessitating the administration of antitoxin. In 1896, when antitoxin was given much more freely, the fatality among the paralysed in the non-affected group fell to 18.4.

Without entering into further details on the figures, they clearly show the efficacy of the antitoxin when given at an early stage of the disease; and that the larger the quantity of antitoxin given during the earlier stages of the disease, the lower is the fatality. Conversely, the larger the number of cases that come under treatment in the later stages, however large be the quantity of antitoxin given, the higher is the percentage fatality.

The theoretical standard of 100 times the lethal dose has been taken as the amount necessary to neutralise one unit of antitoxin. Professor Woodhead found that in certain cases 20,000 units, and in one 40,000, of antitoxin were formed for every unit of toxin injected; while in no case in which there was any fever at all were there fewer than 63 antitoxin units for every unit of toxin injected. Animals treated with antitoxin, as pointed out by Roux and Vaillard in 1893, may lose blood equal to the whole body weight, if this loss be prolonged over a period of several days, without any material decline in the antitoxin value of the blood that remains. It is clear, therefore, that antitoxin still goes on being formed after all the toxin has disappeared, being probably "the continued result of a special stimulation of the antitoxin-forming cells."

When we come to the larynx, it is especially in our knowledge of laryngeal phthisis that we note an important advance. Previous to 1880 this disease, in all its stages, was regarded as absolutely incurable. In that year the feasibility of attacking it surgically was suggested. Heryng took this up very vigorously, and we began to think that we were, after all, dealing with a disease that was very amenable to treatment. Thus we had two periods—one of pessimism and one of optimism. Now we have reached a period when our opinion of the value of available treatment, after twenty years of trial,

lies between these two extremes. We now say that during the inflammatory and infiltration stages, beyond enjoining strict rest to the voice and throat—*e.g.*, avoidance of speaking, inhalation of irritating vapours or dust as in manufacturing or distributing trades, the taking of irritating articles of food or drink, tobacco-smoking, &c.,—we can do little by local treatment to stay the progress of the disease. When, however, we have to do with dysphagia our armamentarium has been enormously enriched by the discovery of cocaine, eucaine, &c. Surgery in these early stages of the disease is as yet only at the beginning of its trial. In the third or ulcerative stage we are now able to say that we can occasionally, but unhappily rarely, show a case in which local, combined with modern sanatorium treatment has brought about healing of tuberculous ulceration. But we are not entitled, I think, to speak of cure until at least one year has elapsed without recurrence. We also know that the only condition of the patient in which we are at all likely to obtain this much-to-be-desired result is that in which we get a healing fibroid state of the lungs established, but not always then. There is no room for optimism in this; but yet we have advanced far from the position held previous to 1880, and this advance is mainly due to our having attacked the diseased structures surgically. When, however, we think of the power of alleviating the awful suffering to which some of these patients are subjected, which the discovery of cocaine and eucaine, and, in the ulcerated stage more especially, orthoform, has placed in our hands, we cannot but acknowledge our great indebtedness to the chemist and therapeutist for their marvellous discoveries. Very recently I have seen a case in which insufflations of orthoform and resorcin apparently completely cured undoubted laryngeal tubercular ulceration, and this simple method of treatment is worthy of further trial.

During the past twenty years a large number of operations for the removal, entire or partial, of the larynx have been undertaken for the extermination of cancer. Powers and White[1] give the following table:—

[1] *Med. Rec.*, 1895, xlvii. 353; quoted by Jonathan Wright in *An American Text-Book of Diseases of the Eye, Nose and Throat.* Edited by de Schweinitz and Randall. Vol. ii., 1899, p. 1112.

Total excision	180	cases.
Died as result of operation	72	,,
Died in first year	8	,,
Recurred in first year	51	,,
Recurred after one year	8	,,
Reported free in first year	16	,,
,, in second year	11	,,
,, in third year	3	,,
,, after three years ...	11	,,
Partial excision	77	,,
Died as result of operation	26	,,
Died in first three years	5	,,
Recurred in first year	17	,,
,, after first year	3	,,
Reported free in first year	13	,,
,, in second year	4	,,
,, in third year	2	,,
,, after three years ...	7	,,

These statistics show us that only a small proportion of cases operated upon are cured. Doubtless better results will be obtained when every one of us is in the habit of examining every case of hoarseness, however slight, with a laryngoscope. This symptom is for some time usually the only one present in laryngeal carcinoma, and if we find swelling about the arytenoid with interference of movement of the attached cord during quiet respiration in a patient otherwise healthy, and especially in middle life, apart from the discovery of suspicious growth within or outside the larynx, this should arouse our suspicions. I am quite sure that from omission of laryngoscopic examination the diagnosis is often made much later than need be, and the results of operation will become more satisfactory when diagnosis is made and operation is done earlier, rather than from improvement in surgical technique. There are, apparently, cases on record of successful removal of malignant growth by endo-laryngeal methods, but we can scarcely believe that an infiltrating growth can often be successfully dealt with in this way. The question of the risk which a patient runs where we operate on benign laryngeal growths, *per vias naturales*, of a conversion into epithelioma has been settled by Semon's statistics. These make it 1 in 1645, and even here it is difficult

to say whether some of these growths, apparently innocent, were not really always malignant. Several years ago I published a case with Semon that appeared to justify us in holding the opinion that this transference can occur.

Reviewing our present knowledge of the motor innervation of the larynx, we know that the crico-thyroid muscle receives motor impulses from the exterior branch of the superior laryngeal nerve, and, as shown by Exner, Onodi, and others, from the middle laryngeal communicating branch from the pharyngeal branch of the pneumogastric. All other intrinsic laryngeal muscles derive their motor nerve supplies from the recurrent laryngeal. In 1881 attention was called to the fact that in laryngeal paralysis the abductors are the first, and sometimes, apparently, the only muscles that suffer as a result of central or nerve trunk lesion. In 1884 Krause considered that his experiments on animals enabled him to say that this apparent paralysis is due to contracture of all the laryngeal muscles from irritation caused by pressure on the nerve trunks or centres, or by their involvement in disease. Various other theories have been launched; *e.g.*, Mackenzie and Riegel suggested the existence of separate filaments in the recurrent supplying the different muscles, and Onodi and Risien Russell demonstrated their existence. Hooper showed that ether has a peripheral and differential effect upon the laryngeal muscles, the abductors being the first to suffer in their functions. Jeanselme and Lermoyez showed that they lose their contractility first after death. Fränkel and Gad showed that freezing the recurrent affects them first, and Massini that chromic acid applied to the nerve does the same. Grabower has adduced evidence that the greater vulnerability may be due to a difference in the method of termination of the nerve fibres in the muscles. Semon, who, in collaboration with Victor Horsley, did so much to endeavour to elucidate this matter, thinks that the muscles themselves may have different characteristics. In our Society we have members who are greatly distinguished in the physiology and pathology of brain and nerve, and I would venture to suggest that they may add further lustre to their fame by investigating this subject.

Paralysis of larnygeal muscles has been observed in many lesions of brain and spinal cord. The most interesting is tabes dorsalis: of 122 cases observed in Gerhardt's clinique, paralysis of laryngeal muscles was seen in seventeen. In eleven of these the abductor muscle was affected: in five bi-laterally, in four on the right side, and in two on the left. There were three cases of paralysis of all the muscles supplied by the recurrent—one bi-lateral and two on the right side. Of the three cases, there was one each of paralysis of the recurrent and of the superior laryngeal, and once paralysis of the recurrent of one side and of the abductor muscle alone of the other. In two cases paralysis of the thyro-arytenoid was seen; ataxic movements of the cords were seen in two cases, and laryngeal crises in four.

The discovery of Röntgen rays has greatly helped the laryngologist in accurately localising the cause of recurrent nerve paralysis. Such a case as I recently reported at a meeting of this Society, and which is published in the last number of this *Journal*, is most instructive in this respect. I would like to strongly urge that whenever we see a case of immobility of a vocal cord, partial or complete, with no pathological appearance in the larynx nor affection of central origin to account for it, we ought never to omit to call in the skiagraphist. The case I have published shows how large an aneurysm may be present without giving rise to symptoms other than laryngeal. Quite recently, on the other hand, I have seen a case of gôitre which has been in existence for the past two years, has grown considerably during the last six months, and in which the symptom of hoarseness, due to paralysis of the left vocal cord, has manifested itself during the past three weeks. On examination with the fluorescent screen, the thorax was found to be quite healthy, and the pressure on the nerve by the enlarged thyroid could be said, with certainty, to be the cause of the paralysis.

A few years ago a well-known general surgeon told an equally well-known aurist that a lecture to students on deafness could rightly be made very short. In was in these terms:—"There are three causes of deafness and three methods of treatment: 1. Wax in the ear; squirt water into it, out it

comes—result, cure. 2. Blockage of Eustachian tube; stick a tube up the nose, patient gulps, bang goes the bag—result, cure. 3. Nerves; nothing to be done."

Nowadays, with graduated tuning forks, Galton's whistle, and accurate application of Weber's and Rinne's tests, we classify our cases with considerable accuracy. The respect paid to a discharge of pus from the ear by most of our profession is vastly greater to-day than it was twenty years ago. Then the dangerous old saying: "The child will grow out of it—let it alone," was very commonly heard, and extensive removal of the membrana tympani and the ossicles, the formation of polypi, permanent deafness, invasion of the mastoid and brain, were the results of the preaching of this pernicious doctrine. Surgeons who were thoroughly convinced of the necessity of scrupulous cleanliness and free drainage in the treatment of an abscess in a limb, allowed the middle ear to be filled with stinking pus, which percolated through a small hole in the drum, frequently placed in the worst possible position for drainage, and did nothing for its relief. Even now there is great room for improvement in the amount of care bestowed on cases of suppurative otitis, and it cannot be impressed too strongly on the profession at large that it is the bounden duty of every man who treats a case of this kind to do everything in his power to make the middle ear aseptic and establish free drainage. The best results are obtainable by accurate early treatment in an acute case, because we shall then usually succeed in preventing permanent perforation and secure perfect hearing. In order to do this, experience teaches us that we must deal not only with the ear, but with the nose and naso-pharynx. As a rule, inflammation and the formation of middle ear abscess originate in the nose, naso-pharynx, and Eustachian tube. We must, therefore, see to it that we restore normal health to these passages and cavities. It is a matter of common experience that frequently the only way to heal a purulent discharge from the middle ear is to remove abnormal structures and growths from the nostril, and adenoids from the naso-pharynx. No one can thoroughly treat a case of suppurative otitis who does not make it a matter of routine practice to

examine and, if necessary, treat the nose and naso-pharynx The same remark applies to the treatment of Eustachian tube obstructions. All who have had any experience in the treatment of these cases know how frequently we fail to keep the tube open by passing a catheter or by using Politzer's bag. In many such cases we shall secure excellent results by removing all nasal and naso-pharyngeal abnormality, and thus secure permanent ventilation of the middle ear.

The modern operation for freely entering and draining the mastoid antrum, with skin grafting of the wound track, marks a great advance in this class of surgery, as also does the removal of the ossicles in certain forms of chronic suppuration. I will not weary you furthur, but hope I have succeeded in interesting you with the relation of my own experience of twenty years of professional work.

CYSTOSCOPY AND URETERAL CATHETERIZATION.

OBSERVATIONS ON TWENTY EXAMINATIONS FOR OBSCURE URINARY AND ABDOMINAL AFFECTIONS.

BY

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DURING the last few years I have had several opportunities of testing the value of cystoscopy in both sexes, and of catheterization of the ureters in the female. The manipulations are often somewhat delicate and require considerable patience; but once the preliminary difficulties are surmounted, diagnoses may be arrived at which would be otherwise impossible. A reference to the table at the end of this article will show the frequent disparity between the provisional diagnosis and that

arrived at by direct cystoscopic observation. I will classify the cases examined, and indicate their chief features.

Tuberculous Kidney, diagnosed by Ureteral Catheterization.—Partial Nephrectomy.—Recovery.

This was the case of a young woman who, having pulmonary tuberculosis also, was for some time treated for supposed tuberculous cystitis. She had pain on micturition, and a sensation as of something coming down at the time. The urine contained a considerable amount of albumin, and microscopically showed numerous pus cells and one or two red corpuscles in the field. Examination of the bladder with the cystoscopes showed it to be normal in every part, including the trigone. Catheterization of the ureters gave the following results:—

R.	L.
Red corpuscles (few).	Red corpuscles (few).
Pyriform cells.	More debris.
Pus cells (very few).	Pus cells (numerous).

Now in catheterization of the ureters slight bleeding is the rule. This accounted for the few red corpuscles present. In the specimen from the right side the few pus cells were probably contaminations. The prominent fact was the pus in the urine from the left ureter. To confirm this, catheterization of the left ureter was again performed later. The catheter was passed with ease for about six inches, and urine flowed at the rate of two drops per minute after the first gush of about a drachm into the test-tube. This urine was acid, deposited nearly double the amount of pus precipitated from the mixed urine, and Dr. J. O. Symes reported it to contain perfectly characteristic tubercle bacilli. A left tuberculous kidney was thus diagnosed, and when the left kidney was subsequently brought on to the loin the condition in Fig. I. was seen.

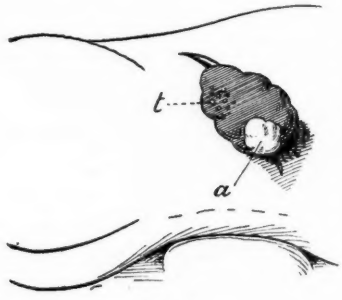

FIG. I.

Tuberculous Kidney.

a. Abscess. *t.* Tubercles.

At the top of the kidney was a large abscess, and towards the lower end there were several superficial miliary tubercles. A partial nephrectomy was performed, including the large abscess, and the patient recovered. Within fourteen days of the operation the albumin and pus had almost completely disappeared from the urine.

The case illustrates renal tuberculosis without affection of the bladder, and, but for the evidences of the disease in the lungs, the case would have been a particularly suitable one for nephrectomy. Her doctor tells me that she is now dying of consumption.

Tuberculous Ulceration of the Bladder.

Two cases of this description will be referred to:—

Case 1 is that of a young girl, with intermittent hæmaturia, who complained of pain in the upper part of both buttocks and in the left loin. Her urine was alkaline, and contained pus, blood, phosphates, and a few oxalates; so that renal calculus was the first diagnosis. But on examining the bladder with the cystoscope, one saw, as in Fig. II., numerous superficial ulcers. On one occasion a patch of whitish membrane, surrounded by a congested base, occupied the left ureteral region, and could be peeled off with forceps. The smaller ulcers were irregular, from the size of a split-pea to that of a threepenny-piece, pale round the edges, and having deep red granulations at the base. The left ureter was catheterized for six inches, and a ten minutes' specimen drawn off, comprising 7 c. c. of urine, with very few pus cells (probably from the bladder), but tubercle bacilli were not found. At a later period bacilli were found in the urine passed from the bladder naturally. Treatment to the bladder was adopted; there was marked improvement in the symptoms, and the improvement was confirmed by cystoscopic observation.

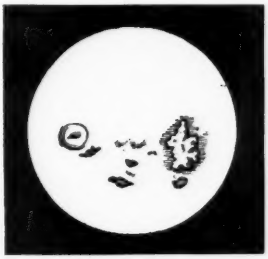

FIG. II.

Tuberculous Ulceration of Bladder.

I understand that the left kidney was subsequently explored by another surgeon and that no stone was found, thus confirming the cystoscopic observations. This case is an example of primary tuberculosis of the bladder.

Case 2 was a young woman, who had had pain above the pubes for four months, with pyuria. Some superficial ulceration of the bladder was detected by cystoscopic examination under anæsthesia (Fig. III.). Local bladder treatment was adopted with marked benefit, and the patient gained 6 lbs. in weight in a week. The ureters were not catheterized;

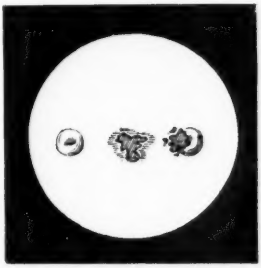

FIG. III.

Ulceration of Bladder and Orifice of Left Ureter.

nor would such a procedure have been wise in the absence o other than bladder symptoms in this case.

Cases with Symptoms Suggestive of Vesical Calculus.

Tuberculous Tumour.—The patient was a lad who, though seventeen years of age, was only developing into puberty. He complained of pain at times in the lower belly when passing water, towards the end of micturition. "The water stops suddenly," he said; "I double up, and later the water comes away again." The urine contained blood. He was given an anæsthetic, and the bladder was sounded, but no stone detected. The urethra was too small for the cystoscope to pass *per urethram*. The bladder was opened above the pubes and Leiter's cystoscope passed into the bladder to illuminate it. A polypoid tumour was then seen, acting like a ball and socket valve upon the internal orifice of the urethra. The tumour was removed, with relief of the symptoms.

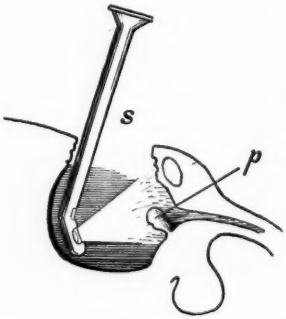

FIG. IV.
Suprapubic Cystoscopy.
s. Suprapubic Aperture. *p.* Polyp.

It is of particular interest, for a tuberculous tumour of the bladder must be a very rare event. That it was tuberculous, containing tubercles, giant-cells and tubercle bacilli, was demonstrated by microscopical examination.

Myelitis.—This case was diagnosed as lumbago or (?) renal calculus. On examination with the cystoscope, numerous deep sacculi and fleshy fasciculi were observed, the former having the appearance of deeply-cupped hernial depressions. The patient had been ill for six months, with inability to hold his water and sharp pains in the left side, with attacks of cystitis. He had girdle-pains in the lower chest, Argyll-Robertson pupil, increased right knee-jerk, but no ataxy. The figure indicates the state of the bladder in such a case, and no calculus was to be seen. From the appearances it is probable that the patient was subject to attacks of retention.

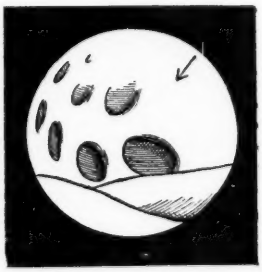

FIG. V.
Bladder in a Case of Myelitis.

Hypertrophied Prostate.—The patient had been examined for stone by his doctor two years previously. Recently, for a few days, almost pure blood was drawn off from the bladder, but patient went forty-eight hours without any relief whatever. He had had increasing difficulty of micturition for three or four years. The stream would

suddenly stop and then gradually return. The frequency was greater by day, and there was pain above the pubes. The cystoscope showed well-marked fasciculi and very deep recesses. The fasciculi were very distinct at the apex of the bladder. There was a collar-like enlargement of the prostate; and, as showing a new fact learned by cystoscopy, the effects of catheterization for some months had resulted in a rough shaggy condition of the posterior part of the prostatic urethra (*see* Fig. VI.).

FIG. VI.
Bladder resulting from Hypertrophied Prostate.

Calculus Undetected by the Sound.—The patient complained of something stopping his water, and inability to hold it; of the passage of blood, and of pain suggestive of stone. He was sounded for stone a year previously, and on the present occasion, without result. The cystoscope revealed a light feathery calculus, which sparkled brilliantly like hoarfrost in the rising sun—a picture to be seen, but only imperfectly depicted (Fig. VII.). The calculus was removed by suprapubic lithotomy.

Epithelioma of Bladder.—The symptoms in this case were supposed to be due to a vascular caruncle which the patient had. This was removed, but hæmaturia continued. The bladder was accordingly examined with Leiter's cystoscope, and an epithelioma was seen towards the right side (Fig. VIII.). Examined by Kelly's cystoscope, the ulcerating tumour was seen projected in relief.

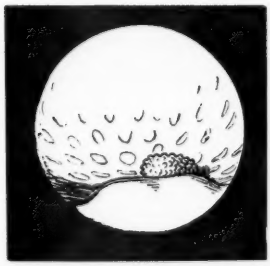

FIG. VII.
Vesical Calculus.

FIG VIII.
Epithelioma of Bladder.

Hæmaturia, of supposed renal origin.—Of two such cases, one proved to be a large irregular hard calculus which had evaded detection by the sound, perhaps from its having been encysted. In the other case the cystoscope showed the bladder to be normal, and a tumour was to be felt in the right loin.

Pyuria of Uncertain Origin.

Of this condition there were three cases, not included under previous headings.

In one the pyuria was very slight; the bladder was seen to be normal when viewed by the cystoscope, and the patient soon got well. In another case, the pyuria was accounted for by chronic cystitis. The patient was an elderly lady, who had been treated for cystitis; but, owing to the persistence of symptoms, I was asked to examine her bladder. The cystoscope showed general fasciculation and slight sacculation everywhere explaining the persistence of trouble, and special intra-vesical treatment was advised. The condition of the bladder is the more noteworthy because the patient was a spinster without any such obstruction as one usually associates with a sacculated bladder.

In this and other cases the cystoscope has indicated that sacculation is a much more common phenomenon of vesical disorder than one formerly supposed. It is a condition which is made more obvious in the moist, distended state of the bladder than when seen on the *post-mortem* table.

One of the most interesting of these cases was recently under my care.

She was supposed to have abscess of the left kidney, associated with old pelvic trouble. I examined the bladder, and detected a granulating surface towards the right side, which bled slightly when touched, at about the position of the *right* ureteral orifice. There

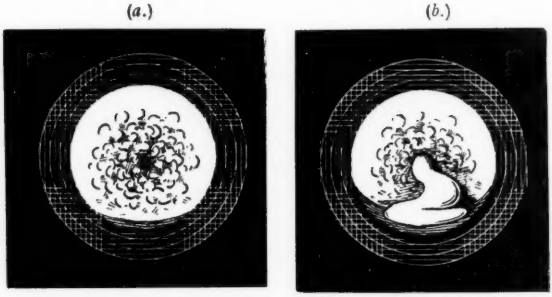

FIG. IX.

Sinus opening into Bladder, arising from Pelvic Abscess.

a. The patch of granulations. *b.* Flow of pus after withdrawal of exploring probe.

was no sign of any pus. This surface was gently probed, and the instrument pressed in for a short distance at the centre. On withdrawal of the probe there appeared a white string of pus, which

NO.	PATIENT.		DOCTOR.	PROVISIONAL DIAGNOSIS.	METHOD.	OBSERVATION.	REMARKS.
	Sex.	Age.					
1	Female.	19	Dr. W.	Cystitis. Tuberculous kidney.	Leiter and Kelly (ureter).	Bladder normal. Pus in urine from left ureter.	
2	,,	,,	,,	,,	Leiter.	Foregoing confirmed.	
3	,,	,,	,,	,,	Kelly (ureter).	Pus (containing bacilli) in urine from left ureter.	Partial nephrectomy.
4	Male.	18	—	Vesical calculus.	Suprapubic cystoscopy.	Polypoid tumour blocking urethral orifice.	Tumour removed. Bacilli demonstrated.
5	Male.	61	Dr. L.	Vesical calculus.	Leiter.	Hypertrophied prostate, with sacculated bladder.	Catheter life.
6	Female.	24	Dr. L.	Cystitis.	Kelly.	Superficial ulceration.	Intravesical treatment.
7	Male.	48	—	Lumbago. ? Renal calculus.	Leiter.	Numerous deep sacculi and fasciculi.	Myelitis.
8	Male.	19	—	? Calculus, thrice sounded.	Leiter.	Small ovoid calculus.	Suprapubic lithotomy.
9	Female.	17	—	Renal calculus.	Kelly.	Superficial ulceration of bladder.	
10	,,	,,	—	,,	Kelly.	Ditto. Also whitish membrane around left ureter.	Local treatment to bladder (Bacilli found in urine).
11	,,	,,	—	,,	Kelly (ureter).	Left ureter catheterized, and disease of left kidney excluded.	
12	Male.	54	Dr. W.	Hæmaturia, ? renal.	Leiter.	Field obscured by a dark object.	Perineal lithotomy.
13	Female.	70	-	Hæmaturia. Vascular caruncle.	Leiter.	Epithelioma of bladder.	
14		,,	—	,,	Kelly.	Epithelioma (side view).	No operation.
15	Female.	17	—	as above.	Kelly.	Great improvement observed.	
16	Female.	—	Dr. C.	Abscess of kidney.	Kelly.	Bladder and ureteral regions normal.	Pyuria ceased.
17	Female.	58	Dr. F.	Slight pyuria.	Leiter.	Bladder sacculated and fasciculated.	Chronic cystitis.
18	Female.	40	Dr. T.	Abscess of left kidney.	Leiter.	Urine became cloudy, but abnormality to right detected.	
19	,,	,,	,,	,,	Kelly.	Sinus opening into the right of bladder from left side.	Extraperitoneal drainage.
20	Female.	50	Dr. G.	Renal calculus or tumour.	Leiter.	Bladder normal.	Kidney explored. Malignant tumour.

poured out on to the surface of the blood collected in the Kelly's tube, like a fountain of viscid cream (Fig. IX.). A soft catheter was passed several inches into this aperture, and was found to have curved round behind the uterus towards the *left* broad ligament, where a hard inflammatory mass could be felt. A diagnosis of a sinus from the left broad ligament was made, opening into the *right* side of the bladder. The inflammatory zone was drained by the extra peritoneal abdominal route, and the patient soon began to improve, and left for convalescence in the country.

Cystoscopy in general, and catheterization of the ureters in particular, have certain difficulties and contra-indications; but the cases here related will serve to show how valuable the method of diagnosis becomes in certain obscure abdominal disorders associated with symptoms referable to the urinary tract. Catheterization of the ureters is also frequently employed to indicate the position of the ureters during the removal of uterine and ovarian tumours.

Note.—Since the appended table of twenty cases was compiled, the writer has made three further cystoscopic examinations. In one, there was no visible lesion to explain an intermittent hæmaturia. In the second, a small villous growth near the left ureteral orifice was unexpectedly discovered. This was removed by the suprapubic route. In the third, there was a sacculated bladder, whilst a tumour overhung the end of the cystoscope and proved on suprapubic exploration to be a large epithelioma.

SOME SURGICAL ASPECTS OF MECKEL'S DIVERTICULUM.

BY

WILLIAM SHEEN, M.S., M.D. Lond., F.R.C.S.,

Surgeon to the Cardiff Infirmary.

THE vitelline or omphalo-mesenteric duct usually becomes obliterated in the eighth week of fœtal life, or a little earlier, and then disappears. It may persist under various aspects, the commonest of which is where its proximal end develops

into a blind sac of gut some three inches long, attached to the ileum near its lower part, forming the ordinary Meckel's diverticulum, and usually giving no signs of its presence during life. Other lines of development or partial failure of involution may give rise to conditions of both clinical and pathological interest, and examples occur with sufficient frequency scattered through surgical literature to make the subject appear worthy of summary and comment. Closely associated with the duct, and producing various phenomena as a consequence of their persistence, are the omphalo-mesenteric vessels.

The following case which was under the writer's care will lead naturally to the consideration in detail of the various conditions which may be present:—

Case I.—E. T. L., male, æt. 1 year 9 months, admitted to the Cardiff Infirmary April 22nd, 1897.

History.—Swelling at navel since birth. Confinement was not attended by a doctor, and mother has been dead twelve months. Swelling has always been the same size. About half a pint of glairy fluid comes from it in twenty-four hours, staining and stiffening linen. General health always good.

Present Condition.—Healthy, well-nourished child. Attached to centre of navel is a bright red, bluntly lobulated, pedunculated tumour, the size of a grape, with skin reaching only to its margin. The surface resembles intestinal mucous membrane and exudes a viscid fluid of alkaline reaction. In the centre is a channel 1 inch deep. Through the parietes a cord the thickness of a cedar pencil can be felt passing backwards for about 1½ inches. Urine and fæces are normal.

After admission the fluid was collected as far as possible by a small glass vase strapped on to the child's abdomen. Amount 10—15 c.c. in twenty-four hours; on two occasions reached 22 c.c.; sometimes only 5 c.c., but then some was lost. It was a colourless viscid fluid pouring from vessel to vessel like a thin jelly, of alkaline reaction and containing a little albumin. It had no digestive action on fibrin or starch. So far as examined then, it resembled succus entericus. On July 31st the tumour was removed by scissors and the base cauterised, the procedure being quite a slight one. The child vomited continuously after the anæsthetic. On August 3rd a simple enema was given and the bowels were twice opened: on the following days the child was fretful and became thinner, the milk was peptonised but the vomiting continued; vomit undigested milk; the abdomen was distended and tender; the child worse. On August 7th, a blood-streaked motion is stated to have been passed after an enema, but it was not saved by the nurse. Nutrient enemata were given towards the end, but the child died at 5 p.m. on August 7th, one week after the operation. The cause of death was thought to be peritonitis.

August 8th. *Post Mortem.*—No peritonitis. Death found to be due to internal strangulation, and the parts involved removed for separate examination. In the specimen removed were the lower part of the small intestine, cæcum, appendix, and a small piece of ascending

colon. Connected with the small intestine was a Meckel's diverticulum patent to within an inch of the umbilicus, to which it was attached by a solid cord. The skin around the umbilicus was removed by an elliptical incision.

On dissection the following points were made out:—

1. The bowel is strangulated by being herniated through a hole (A) in the mesentery of the diverticulum ilei. 2. The constricted bowel is 25 inches in length. 3. Practically all the bowel between the origin of the diverticulum and the ileo-cæcal valve is strangulated. 4. The strength of the constricting cord of mesentery is largely due to a vessel traversing it. 5. The bowel is twisted within the ring and near perforation at its proximal end. 6. The diverticulum is bulbous in shape and its lumen much narrowed where it joins the intestine.

Diagram 1 shows the condition, the strangulated loop being represented turned out of the constricting ring (A). The polypus is also

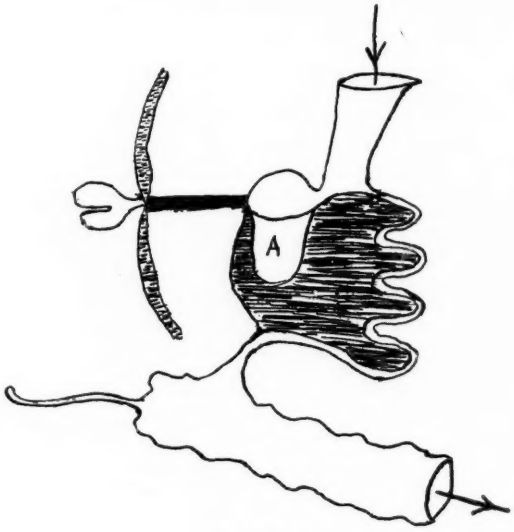

DIAGRAM I.

shown. The position of the appendix was interesting. It lay against the diverticulum, with its apex pointing towards the liver.

Microscopical examination of the polypus showed a connective tissue basis with a layer of intestinal glands—exactly like Lieberkühn's follicles. In places the intestinal glands were proliferating so as to produce a mass resembling an ordinary intestinal adenoma.

Clinically disappointing, this case is of great interest pathologically. The writer has been able to find no other record of a

case of strangulation through the mesentery of a Meckel's diverticulum.[1]

Class 1.—Some form of remnant of the vitello-intestinal duct occurs in rather more than 2 per cent. of all bodies examined. The common form of Meckel's diverticulum (diagram 2) is a free tube of intestine ending blindly, springing from the convex border of the ileum, usually about three feet from the ileo-cæcal valve. Its lumen is that of the intestine, and its calibre is generally widest at its attached extremity. It may have a mesentery, but usually has not, deriving its nourishment from the blood-vessels in its walls. Its average length is three inches, but it has been seen as a mere bud or of the length of ten inches. It comes off from the intestine usually at right angles, sometimes obliquely. It may—very rarely—arise from the concavity of the intestine, lying within the layers of the mesentery. Internally, at its junction with the ileum, a valve may be found indicating an attempt at closure.

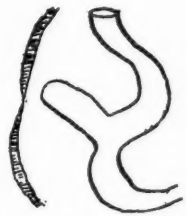

DIAGRAM 2.

The structure of the wall is the same as that of the small intestine. The muscular coat may be deficient at the free end, the mucous membrane being herniated under the serous coat so as to form a clubbed extremity to the diverticulum.

The diverticulum may occupy, or be strangulated in, a hernial sac; it may exhibit such morbid processes as occur in the intestine, *e.g.*, ulceration or perforation. It may produce strangulation by forming knots, especially when the extremity is clubbed. (Treves.)[2] Rolleston mentions a case in which the diverticulum became inverted into the bowel and produced an intussusception.

Class 2.—In a second class of cases—to which the one described above belongs—the end of the diverticulum is connected with the posterior aspect of the umbilicus by a fibrous cord which may be pervious in some part of its extent. This

[1] This case formed the subject of a paper read to the South Wales Branch of the British Medical Association.

[2] Allbutt's *System of Medicine*, vol. iii., 1897, p. 802.

may cause intestinal obstruction in various ways, the gut being thrown over it or drawn under it, or pushed through its mesentery—as in the case above detailed,—or, under certain conditions, especially much distension of the bowel, the diverticulum may drag upon it at its point of attachment, producing kinking.

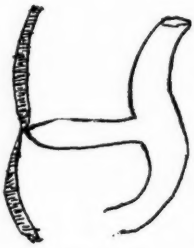

DIAGRAM 3.

Class 3.—Similar accidents may happen when the end of the diverticulum is attached to the posterior surface of the umbilicus. (Diagram 3.) These cases may in early life have belonged to the class where a minute fistula is present, the fistula having healed spontaneously. Richardson reports a case in which an unusually large Meckel's diverticulum was attached to the ileum about three feet above the ileo-cæcal valve; its calibre was that of the ileum; it had no mesentery, but was covered with peritoneum and supplied with blood-vessels from the ileum and the abdominal wall.[1] In 1898 Heaton showed to the Midland Medical Society a patient in whom, after a short illness, a large fæcal concretion had been discharged from the umbilicus. Before and after, the patient was in perfect health. He suggested that the concretion had been formed in Meckel's diverticulum, set up ulceration and been discharged through the umbilicus.[2]

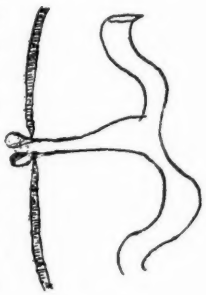

DIAGRAM 4.

Class 4.—We now come to the important class of cases in which the diverticulum, having been continued for a variable distance into the cord, is pervious throughout at its separation. (Diagram 4.) The entire tube may have the structure of fully-developed intestine, or a variable length nearest the umbilicus may be a channelled cord. The mucous membrane at the umbilicus, prolapsing and proliferating, often forms a little polypus, in the centre of which

[1] *Quart. M. J.*, 1894-5, iii. 267. [2] *Brit. M. J.*, 1898, i. 627.

is a minute channel through which fæcal matter extrudes. Such a case was shown by Battle to the Clinical Society in 1893. The child (a female) had an umbilical polypus with a minute opening in its centre, from which fæcal matter escaped. The bowels acted normally. The protruded portion proved to be the mucous membrane of Meckel's diverticulum.[1]

Sometimes the bowel below the attachment of the diverticulum is much contracted. Brundeau records the case of an infant which died when five days old. It was an eight months child, weighing only 2 lb. 5 oz. The diverticulum was situated 8½ inches above the cæcum. It was pervious and meconium was found in the liquor amnii. The gut was drawn forwards at a sharp angle; above the diverticulum it was much dilated, and below very small.[2]

A further stage of this condition is found when the intestine below is absolutely occluded. Its patency should always be demonstrated before attempting to close a fæcal fistula. Anderson records the case of a child with a fistula at the umbilicus through which it defæcated. After death a fistula was found in the ileum, 1½ inches from the cæcum. The intestine terminated blindly 6 inches below the ileo-cæcal valve. The case was thought to be one of incomplete hernia from non-retraction of the "navel loop," which was divided at birth. The apex of the loop was at the point of attachment of a Meckel's diverticulum which was not identified, the placental end of the cord not being preserved.[3]

If the external opening of the fistula be large the mucous membrane of the diverticulum may prolapse into it and sometimes so extensively that a spur from the ileum projects into the wound with two openings, one on each side of it. Tillmanns[4] states that in this class of case the prolapse always takes place from the proximal end of the intestine; but Golding-Bird records a case in which the ileum below the diverticulum was intussuscepted into it, the diagnosis being confirmed by an autopsy.[5]

[1] *Tr. Clin. Soc. Lond.*, 1893, xxvi. 237.

[2] *Brit. M. J.*, 1895, i. Epitome, p. 59. [3] *Tr. Path. Soc. Lond.*, 1891, xlii. 128.

[4] *A Text-Book of Surgery*, vol. iii., 1898, p. 9.

[5] *Tr. Clin. Soc. Lond.*, 1896, xxix. 32.

Class 5.—An interesting case, unique so far as the writer has been able to ascertain (diagram 5), was described by Heaton to the Midland Medical Society in 1895. A growth was shown removed from the navel of a boy æt. 4½ years. It was stated that when the child strained he passed water from his navel, and on examination it was found that a jet of fluid came from this situation on crying. A probe entering the fistula passed downwards and backwards for 3½ inches. The fluid was clear, light yellow, and strongly alkaline, closely resembling succus entericus. At the operation a large thick-walled, pear-shaped sac was found, passing downwards and backwards, and adherent by a band of fibrous tissue to the small intestine. The sac was excised by two operations and showed microscopically the structure of small intestine. The explanation given was that the vitello-intestinal duct had become partially obliterated, and that the remainder was distended by secretion into a thick-walled muscular sac.[1]

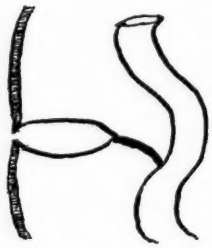

DIAGRAM 5.

Class 6.—Closure of the process at its proximal and distal extremities will give rise to cysts in or behind the umbilicus. Such conditions are very rare. (Diagram 6.) In 1887 D'Arcy Power reported a case of congenital umbilical hernia containing a foot of small intestine; the sac was transparent, being formed by the coverings of the cord with the main constituents of the funis running as a bundle along its lower border. At a short distance beyond the tumour was a small sac filled with a viscid fluid.[2] The second sac was probably a non-obliterated portion of the vitello-intestinal duct, occurring here, however, outside the body.

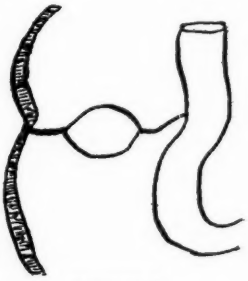

DIAGRAM 6.

[1] *Brit. M. J.*, 1895, ii. 1107. [2] *Tr. Path. Soc. Lond.*, 1888, xxxix. 108.

Class 7.—Finally, the duct may exist as a fibrous cord running from umbilicus to intestine. (Diagram 7.) F. A. Mahomed describes a case of fibrous cord which produced obstruction and death. The cord reached from the mesentery to the umbilicus, and was supposed to be a remnant of the left hypogastric artery with an abnormal origin from the ileo-colic branch of the superior mesenteric.[1] It is more probable that it was a remnant of the vitello-intestinal duct.

DIAGRAM 7.

Secondary changes may take place in the attachments of the duct-remnant. It may free itself from the umbilicus and remain free in the abdominal cavity, or more commonly form a secondary attachment to intestine, mesentery, or elsewhere. Or again—as in Mahomed's case detailed above—the proximal end may shift its attachment to some new point. Sometimes a cord may stretch from the root of the mesentery to the ileum opposite the point of normal attachment of a diverticulum. (Treves.)[2] This has been supposed to represent a remnant of the omphalo-mesenteric vessels extending between the bowel and the root of the mesentery.

The following case of acute intestinal obstruction which was under the writer's care is of interest as showing the results of secondary attachment of the diverticulum :—

Case II.—A. L. W., male, æt. 41. Admitted Cardiff Infirmary, November 7th, 1899.

History.—Loss of flesh one year. Present illness began with an attack of abdominal pain after supper nine days ago. Since then absolute constipation and constant vomiting, which has been fæcal for the last six days. Has had two enemata without effect. Abdominal pain and latterly hiccough have been constant.

Present Condition.—The man looks very ill, with cold extremities; pulse 72, feeble; temp. 97° F. Has vomited a little brown fluid matter, smelling fæcal; abdomen moderately distended; flanks and hypochondriac region somewhat flattened; some dulness above pubes; remainder resonant; peculiar hollow high-pitched note over position of sigmoid flexure; no visible peristalsis; splashing sounds on manipulation; rectal examination *nil*; pain referred to umbilicus.

The patient was given ether immediately, and the abdomen opened

[1] *Ibid.*, 1875, xxvi. 117. [2] *Op. cit.*

in the left iliac region. The colon was found empty; some distended coils of small intestine presented themselves, and the hand could feel something like a band on the right side and apparently near the pelvic brim. The closure of the wound was commenced with a view to opening in the middle line, when, somewhat suddenly, the patient—whose condition was extremely serious throughout—collapsed and died. The trachea was opened and various measures resorted to to restore animation, but without effect.

Post Mortem.—Twelve hours after death. Abdomen only opened through a crucial incision. No peritonitis. Small intestine distended and injected. Without disturbance the seat of obstruction was at once seen in the form of a diverticulum of the bowel passing downwards and outwards from the median line, at a point about opposite to the third lumbar vertebra, towards the pelvic brim. On examination the diverticulum, which was devoid of a mesentery, was found to be about four inches long, bulbous at its commencement, then narrowing suddenly, but patent to its extremity. It sprung from the posterior aspect of the ileum about two feet above the ileo-cæcal valve, curved forwards and inwards round the bowel from which it came, and passed downwards and inwards, to be attached by its apex to the small intestine again about five inches from the ileo-cæcal valve. (Diagram 8.)

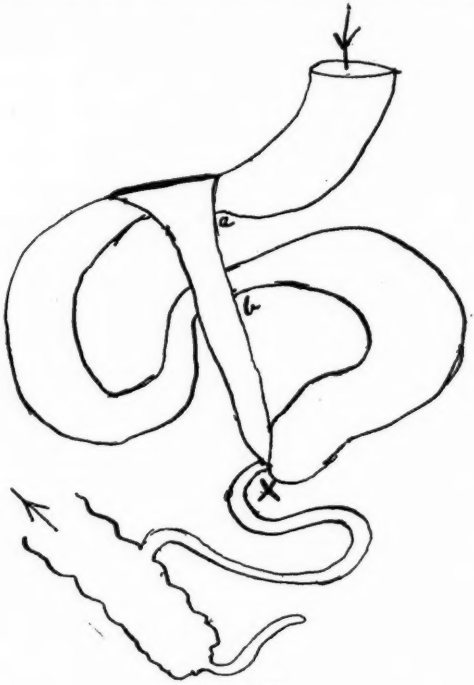

DIAGRAM 8.

The obstruction of the ileum took place at the point of attachment of the apex of the diverticulum, which attachment was made by a few short firm adhesions. The bowel was very near perforation at this point. The gut was also pressed upon somewhat at two points above the actual seat of obstruction; viz., (1) where the diverticulum wrapped itself round the ileum at its point of origin—*a*; (2) where a loop of bowel passed under the diverticulum—*b*. It was evident that the more distended the bowel became, the more would the diverticulum pull upon and kink its point of attachment.

Reference has also been made to the possibility of an umbilical hernia persisting through traction of the omphalo-mesenteric duct. (Wm. Anderson's case.) It must be remembered that up to about the end of the third month of fœtal life umbilical hernia is a physiological condition, the greater part of the small intestine being protruded from the abdomen into the tissues of the cord forming the "navel loop," to the apex of the loop being attached the omphalo-mesenteric duct or its remnant. The following case has some bearing upon the surgical aspect of this point. Hope, at Queen Charlotte's Hospital, records that he was called to see a child just born, and found a hernial protrusion into the cord the size of a hen's egg; it was a partially reducible enterocele, the neck of which was formed by the skin and the fundus by the coverings of the cord. The umbilical vessels were spread out over the right side of the sac. The contents were found to be large and small intestine, of which five inches of the latter were adherent. The bowel was healthy and was separated without difficulty. What was believed to be the vermiform appendix was so intimately fused with the tissues of the cord, that it had to be ligatured and divided. The child recovered.[1]

If—as is probable—this cord was not the vermiform appendix, but a remnant of the omphalo-mesenteric duct, the case affords evidence of the persistence of the duct being contributory to congenital hernia. It is not probable, however, that so delicate a structure can play a very important part in the production of hernia, especially in the larger forms (exomphalos) where deficient closure of the lateral body-walls is the principal cause.

With regard to **umbilical polypus**, its presence in association with a fæcal fistula has been incidentally referred to, but the

[1] *Lancet*, 1886, ii. 773.

usual form in which a polypus exists is with its connection with the intestine cut off, as in Case I. Many such cases have been reported, but there is, as a rule, no record of any evidence of the presence of an occluded diverticulum in connection with the polypus; for their removal is simple and recovery almost invariably follows. Occasionally polypi of a different nature occur, being either in association with a persistent urachus, or resulting from proliferation of granulations after the fall of the cord or, rarely, of nævoid structure. But those arising from partial persistence of the omphalo-mesenteric duct are probably the commonest. It was some time before the true nature of these polypi was ascertained. Under the heading "Persistent Vitality of the Umbilical Cord," C. R. Williams describes a case in the *Lancet* for 1880. A baby, three weeks old, had a fleshy outgrowth, fully an inch long, projecting from the umbilicus. It was quite rigid, with a raw granulating surface, bleeding at the slightest touch and extremely sensitive. There was a small central depression at the free extremity. The nurse stated that she had to change the dressing frequently, on account of a watery oozing from the growth. It was removed by ligature round the base.[1]

Francis Villar describes a number of cases and gives references. He states that the growths were first correctly described by Kolaczek in 1875, and designated "entero-teratomes."[2] They have also been styled "adenomata of the new-born" and "prolapse of Meckel's diverticulum."

W. S. Colman has accurately described the microscopical appearances of these little growths.[3] There is a cone of ordinary unstriped muscle covered by a thick layer of mucous membrane which consists of Lieberkühn's follicles and adenoid tissue, exactly like the mucous membrane of the small intestine (cf. Case I). Various ingenious pathological theories have been advanced to account for this development and extrusion of the omphalo-mesenteric duct at the umbilicus, while it disappears wholly or partially elsewhere. There is, of course, something more than a persistence, and we are left to choose

[1] *Ibid.*, 1880, i. 701. [2] *Tumeurs de l'Ombilic*, 1886, p. 41 *et seq.*
[3] *Tr. Path. Soc. Lond.*, 1888, xxxix. 110.

between excessive development followed by involution of that portion of the tube which connects the polypus with the ileum, and development into a structure resembling small intestine at a particular point in the line of the duct. The fluid from these polypi closely resembles succus entericus, and its digestive properties should always be investigated.

Very rarely polypi have been described which microscopically have the structure of pyloric mucous membrane. (Tillmanns.[1] C. B. Ball.[2])

One cannot determine the exact share taken in producing these various abnormal conditions by remnants of the omphalo-mesenteric vessels. It is probable that they are most concerned in the production of bands or cords, especially those in or connected with the mesentery.

Finally, a process of super-involution of the vitelline duct has been supposed to account for cases of partial or complete occlusion of the small intestine, near the usual site of attachment of a Meckel's diverticulum.

THE QUIET PRODUCTION OF ANÆSTHESIA.

A CLINICAL LECTURE.

BY

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To succeed in getting patients into the anæsthetic state quietly many little details have to be attended to. One often hears of patients taking the anæsthetic badly, but a good deal depends upon the method employed by the anæsthetist.

The importance of this quiet production of anæsthesia is that the patient's safety is greater. It is when there is struggling, holding of the breath, or vomiting that alarming symptoms may arise. So many deaths have occurred during

[1] *Deutsche Ztschr. f. Chir.*, Bd. xviii. [2] *Illust. M. News*, 1889, iv. 149.

the "going under," that this is now recognised as the most dangerous period; and in other instances, where death took place later on during the progress of the operation, it was frequently stated that the patients went under badly.

The aim of the anæsthetist should be to make the patient pass into the state of narcosis as quietly as he would fall into natural sleep, and this can be attained in the majority of cases. With this object in view, anything likely to excite the patient should be avoided, and everything possible done to calm him.

It is necessary to remember that the patient is naturally in an anxious state of mind when the time for an operation comes. As a rule he shows a brave attitude; but when you examine the heart, the palpitation present reveals the excited condition of the nervous system. The hospital patient is not so difficult to deal with as the private one. With the latter, the presence of anxious friends does not tend to calm him; and now and then a friend will act in an actually mischievous way, as once happened to a patient of mine. This lady had sent to her by post on the morning of the operation a cutting from a newspaper: it was a report of the death of a person who had died from chloroform. Of course, great anxiety had been caused by this.

Before commencing the anæsthetic, there are a few preliminaries to be attended to.

It is well to examine the chest (unless it has already been done), to get a knowledge of the condition of the heart and lungs. The patient, owing to the palpitation, often has an idea that his heart is not strong, so it is reassuring to him when he can be told he is quite sound. This examination should be performed quickly; for any prolonged application of the stethoscope in the cardiac region has a tendency to alarm the patient, as he thinks you have discovered something wrong there.

The position of the patient as he lies on the table or bed is of some importance. Since one is going to imitate natural sleep as much as possible, the patient should be arranged as comfortably as circumstances will allow. The pillow nearly always requires placing in position, and in doing this see that

the patient's head is not too much flexed, otherwise he will not breathe freely as he goes under.

The hands should next be attended to. You will see that they are invariably kept outside the bedclothes; and a nervous patient keeps them near his face, so as to be ready to catch hold of the inhaler. Always have them placed down by the sides, beneath the bedclothes.

The patient at this time will often ask you to be sure he is "asleep" before the operation is begun. You can assure him he will not feel any pain.

The next question frequently asked by the patient is—How shall he breathe? Whether with his mouth open? or whether he must take deep breaths? My answer is, that I wish him to go to sleep as he usually does, so I do not want him to take deep breaths or to keep his mouth open. The more passive you can make him, the better; any active assistance does more harm than good.

Having by such means as these steadied your patient, ask him to close his eyes and go to sleep. The ordinary patient shuts his eyes, but every now and then opens them to see what is being done. To prevent this I place my left hand over his eyes, and wait until the nervousness has passed off and he is breathing regularly. Two or three minutes spent in this way with a nervous patient will save a good deal of time in the end. The patient, with his eyes closed in this manner, sees nothing of the inhaler being applied and does not know when the anæsthetic is really commenced. Many patients imagine they are having it long before they are, and I encourage them in this mistaken idea by telling them they will soon be asleep. This way of "suggesting" sleep can be made of considerable service, provided the anæsthetist has taken the right steps to allay the nervousness of his patient. Many are calmed by it in a remarkable way, and I have met a few who, to all appearances, were well on the way to sleep before any anæsthetic was used.

(This method of suggestion is not much good for a delirious patient or for young children. With the latter, a good way is to divert their attention, if possible, by asking them to count, say, up to 50.)

Regular breathing having been secured, apply the inhaler cautiously and commence the anæsthetic with a weak vapour, its strength being gradually increased as the patient goes under. The breathing is the best guide for increasing the anæsthetic; any hesitation, or coughing, shows that the vapour is too strong at this stage. It is upon the maintenance of regular breathing that the success will now depend; a weak vapour breathed quietly and regularly is more effectual and safer than a stronger one taken intermittently. At the same time, with the patient breathing properly, it is important to go on steadily increasing the vapour, so as not to unnecessarily delay the going under. One sometimes hears of half an hour or more being spent in getting a patient under, which means that this period of danger has been unduly prolonged.

As I have had opportunities of seeing the mistakes made by beginners, I should like to draw your attention to a few of them.

So far as I have been able to observe, asking the patient to take deep breaths is a frequent source of trouble. It at once prevents any imitation of natural sleep, and it often produces reflex holding of the breath or coughing, because a vapour which can be breathed readily with quiet respiration may not be inhaled so well if deep breaths are taken. Imagine, however, a case where these troubles have not arisen, but the patient goes on rapidly taking deep breaths. Now this forced breathing is hard work; and besides that, in a minute or two a condition of apnœa is produced. For these two reasons the patient takes a rest, which is to a great extent a physiological one. A practical anæsthetist is able to see that this is not at all like respiratory failure from paralysis of the centre; but the beginner, thinking the patient has "stopped breathing," commences shouting to him to go on breathing, slaps his face, or may even apply tongue forceps. Any rough treatment of this kind with a patient only partly unconscious should be carefully avoided, as it is frequently followed by alarming symptoms.

These troubles can be prevented by allowing the patient to breathe naturally and quietly at first.

The too energetic testing of the corneal reflex in the early administration is another mistake. Some beginners, having read about the importance of the corneal reflex and the size of the pupil, commence working at the patient's eye from the moment the anæsthetic is started. Nothing can be more irritating to a person going to sleep than this, and I have frequently seen a patient who was going under quietly, roused by it.

There is not any necessity to open the eye in the early stages, so long as the breathing is satisfactory. We have two signs by which we can know the patient is not under. In the first place, there are tremulous movements of the eyelids to be seen, which continue generally until consciousness is lost; and secondly, if when trying to raise the upper eyelid by gently drawing upon the skin near the edge of the orbit there is any resistance offered by the orbicularis, this shows that the muscular system is not relaxed, and consequently that the patient is not under.

Too early interference with the patient for the purpose of removing dressings, clothing, &c., is another way of causing trouble. From the time the anæsthetic is started, no one should touch the patient until he is under.

I have seen struggling brought about through the patient being unnecessarily held by assistants. As he begins to lose consciousness he often moves his limbs a little, just as a person will in a restless sleep. Energetic bystanders may, because of these movements, seize him. This rouses him; he feels he is being held, and begins struggling. So long as the hands are down under the blankets, slight movements need be taken no notice of.

There are other details of the same kind; but if you will remember the system to work upon you will find, after some practice, that no matter whether the anæsthetic be gas, chloroform, or ether, you will have little difficulty with patients in the going-under period. You will also help to allay their anxiety at a trying time, and you will spare them a certain amount of discomfort and danger.

NOTES ON TWO HUNDRED AND TWELVE CONSECUTIVE OPERATIONS IN FOUR THOUSAND SIX HUNDRED AND TEN CASES AMONG THE MEDICAL PATIENTS, BRISTOL ROYAL INFIRMARY.

BY

E. H. EDWARDS STACK, M.B. Cantab, F.R.C.S.,
House Physician.

(Continued from p. 233.)

Paracentesis Abdominis.—It is very important in performing this operation to pay particular attention to asepsis, as peritonitis has been frequently known to follow it. It has been taught that it is best not to empty the abdomen too rapidly for fear of collapse, but this fear seems to be groundless. Southey's tubes used to be in vogue, so as to drain the fluid off slowly, but they have now fallen into disuse. Considering how often the abdomen is very rapidly emptied when opened by surgeons on the operating-table, not only for ascites, but in removing ovarian cysts, and this without any collapse, it is unlikely that the draining of fluid by even a large trocar should do harm. It used to be a very common method to put the patient in a chair during the tapping, so that any sign of faintness could be easily remedied by letting him lie down; and no doubt in this position faintness came on more easily than when lying, and this may have given rise to the groundless fear above mentioned. The middle line between the navel and the pubes is the best situation; but the old position outside the deep epigastric artery, which was commonly used, is sometimes an advantage, when in some cases the abdomen does not drain so well from the median point. It has also been customary to put a binder on, and keep this tight, to avoid the too sudden lowering of intra-abdominal pressure; but this is unnecessary, although it is often of advantage in hastening the evacuation

and getting rid of the later portions of the fluid. Sometimes the abdomen, although full of fluid, is resonant all over the front; but this is no contra-indication for choosing the point of election for inserting the trocar. Unless the intestine is adherent to the abdominal wall it will not be injured, and it is just as likely to be adherent at a dull spot as at a resonant one, the dulness being proof, not of the absence of intestine, but of the fact that the intestine is collapsed. There is never any need to be in a hurry to tap an abdomen for ascites, as there is in the chest; it is done much more to relieve symptoms than with the idea of cure. Although in a few cases the fluid does not re-collect, it generally does so; but in the interval the patient is much relieved. Ascites may be due to a failing heart, and as a rule these cases receive but temporary benefit; it may occur, though not very commonly, with the general anasarca of Bright's disease, and in this case the same remark will apply. It may be due to malignant disease; and although it is usually by this time quite beyond the reach of surgery, yet it may be of very slow development, and months, or even years, may pass during which the patient has to be repeatedly tapped, with much relief of the symptoms of pressure each time, and the fluid is usually clear. The disease most benefited by abdominal paracentesis undoubtedly is chronic simple peritonitis, with or without associated cirrhosis of the liver; and in these cases, after repeated tappings, the fluid may cease to re-accumulate, or even after the first it may not return. In cirrhosis without peritonitis, it is very seldom that the patient lives long enough to require a second operation. Many of the cases in the table are labelled cirrhosis because this was the only point which could for certain be diagnosed, but it is generally recognised now that the cases requiring constant tapping are always associated with chronic peritonitis. Tubercular peritonitis with ascites is benefited by this proceeding, but for some as yet unexplained reason it seems much better to let the fluid out by a scalpel-incision than with a trocar. It is very important after tapping to close the hole as firmly as possible. This is best done by a small piece of absorbent wool, and two or three long pieces of strapping carefully and firmly

applied. If leaking can be prevented during the first twenty-four hours, it will probably not take place later; but if it once starts it often goes on for a long time, and is very distressing, as the patient is continually kept wet. One might think that sepsis could more easily occur in a case like this, but I have not heard of or seen a case in which this happened. I believe in a case which looked like one that might leak it would be a good plan to put in one deep stitch of silkworm gut to ensure closure, but I have no practical experience of this.

Incisions made in Legs for Œdema.—This proceeding, I fancy, is not so commonly employed as it used to be. It is most generally of use in heart cases, and is often of great benefit. In several cases in which paracentesis of the abdomen had been performed, and this was done at the same time or later, it seemed to have a much more beneficial effect than letting the fluid out of the peritoneal cavity. This may be because the fluid is let out of the tissues, and so continues to relieve the circulation; while the abdominal fluid has, so to speak, lost its direct contact with the blood stream. As it continues to flow for some time, it is a more constant relief than tapping the abdomen. The best method is to make one three-inch incision into each limb on the inner side near the ankle, and keep it if possible from suppurating, as this quickly terminates the flow. It is not painful; but the constant flow into the dressings is a nuisance, and sometimes cellulitis arises. Southey's tubes sometimes act very well instead; but they often become blocked up, and consequently are not so generally useful.

Paracentesis Pericardii.—This has only been performed in one case. A boy admitted with a first attack of rheumatism developed an acute pericardial effusion; and while about as ill as he could well be with this, a trocar was introduced and 5½ ounces of clear serum withdrawn. He was almost instantly relieved, and for a time he improved very much; there was no return of the fluid. Three or four weeks later an acute attack of heart failure set in, from which he died. The pericardium was found almost universally adherent. It seems to be an uncommon thing for children to get a large effusion of serum in

Volume.	Folio.	Sex.	Age.	Disease.	Amount in ounces drawn off.	Remarks.
49	647	F	42	Morbus Cordis	240	Much improved. Went out relieved.
	730	M	40	Cirrhosis Hepatis	250	Improved, and went out in 2 months.
	797	F	35	Sarcoma of Ovary	160	Clear fluid. Died 7 days later.
	814	M	35	Cirrhosis	460	Tapped also 4 months previously.
	831	F	38	Chronic Alcoholic Peritonitis	240	Relieved.
	846	M	60	,, ,, ,,	260	Death from cholæmia 12 days later.
50	880	M	30	Aortic disease	480	Not much relieved. Death.
	1045	M	47	Hodgkin's disease	160	No relief. Died at home later.
51	37	F	50	Mitral disease	88	Slight relief.
	76	M	61	Aortic disease	124	Some relief. Death 2 months later.
	122	F	47	Cirrhosis and Peritonitis	400	Death 3 days later.
52	458	M	47	Carcinoma Hepatis	416	Much relieved. Clear.
	510	M	48	Carcinoma Abdominalis	220	
				,, ,, later	322	Not much relieved.
53	763	F	60	Supposed Ascites	2	Ovarian fluid. Transferred to Surgeon.
	899	F	50	Cirrhosis	84	
				,, later	125	
				,, later	140	Went out *in statu quo*.
	991	M	14	Ulcerative Endocarditis	105	No relief. Death.
54	43	M	5	Tubercular Peritonitis	67	
				,, later	60	Afterwards opened & drained by Surgeon. Cured.
				,, later	157	
				,, later	190	
	269	M	53	Cirrhosis and Peritonitis	187	
				,, ,, later	216	
				,, ,, later	288	Death.
	511	M	10	Acute Mediastinitis	40	Like mustard and water.
				,, later	32	Still opalescent, but clearer. Death.
56	734	M	50	Mitral disease	181	Not relieved. Death.
	834	F	36	Chronic Peritonitis	165	Relieved.
	952	F	57	Chronic Peritonitis	258	Relieved.
	1039	M	52	Cirrhosis and Peritonitis	400	Morison's operation. Cured.
58	583	M	49	Cirrhosis	98	Relieved.
59	722	M	40	Cirrhosis	290	Not relieved. Death 6 weeks later.
	734	F	40	Cirrhosis	134	Morison's operation. Death.
	945	M	38	Cirrhosis	220	Relieved.
60	48	M	71	Ascites	112	No change.
	109	F	44	Cirrhosis	64	No change.
61	413	F	4	Portal thrombosis in Liver	65	No relief. Death.

acute rheumatism; in fact, pericardial effusion at any age is much rarer than it was twenty years ago, probably due to the introduction of salicylates as a mode of treatment; but this opinion is not universally held.

Galvano-Puncture for Thoracic Aneurysm.—This has been performed in one case, but without benefit, and no difference was noticed during the operation on two occasions. Six and eight positive needles for twenty minutes were used.

Exploration of Joints.—On several occasions some fluid has been drawn from a joint affected with rheumatoid arthritis. No harm resulted, and no micro-organisims were found. Two of these were very acute cases in which the knee-joint was affected, but most were cases of chronic hydrops articuli.

Lumbar Puncture.[1]—This has been done on about twenty occasions. None of them had any effect on the patient for bad or good; but many were of great value in diagnosis and, moreover, what is of more importance to the patient or his friends, in prognosis. The operation is very easily performed, and is, in fact, much simpler and less painful than exploring a chest. A good many cases of cerebro-spinal meningitis with mixed infection have been described, but this occurred only in two cases, one of which had tubercular meningitis as well as the presence of Weichselbaum's diplococcus. The other was a case of cerebro-spinal meningitis, the above-mentioned micro-organism being present, and in addition a positive Widal was obtained, although there were no other certain signs of enteric fever found.

Acute Dyspnœa necessitating Operation.—The eight cases in the table have all occurred in patients admitted medically, and operation had to be performed suddenly. They do not include any cases of diphtheria. There are three cases of retropharyngeal abscess. The first had been ill a week, and was very septic-looking. Nothing could be seen in the pharynx except mucus; the patient was too weak to talk or cry, except in a whisper. It was assumed to be diphtheria, and an incision was made in the skin, luckily without an anæsthetic, for the child immediately cried with such a good voice that laryngitis was excluded, and

[1] Six of these cases have already been reported in this *Journal*, March, 1901.

LUMBAR PUNCTURE.

Vol.	Folio.	Sex.	Age.	Disease.	Nature of Fluid and Micro-Organisms.	Remarks.
51	439	M	16	C. S. M.	Opalescent, W.	Death.
	475	M	45	C. S. M.	Clear, W.	Four previous punctures were clear and sterile. Death.
	481	F	9	C. S. M.	Clear, Sterile.	Not done till child was convalescent. Recovered.
	491	M	7	C. M. S.	Turbid, W.	Recovered. W. also in fluid from Herpes.
	500	M	47	Cerebral Softening	Clear, Sterile.	Death.
	517	M	2	Meningitis	Clear, Sterile.	Death.
60	57	F	21	C. S. M.	Turbid, W.	Death.
	227	M	15	C. S. M.	Turbid, W.	Cured.
	254	M	8 mo's	C. S. M.	Turbid. Bacillus found.	Probably contamination. Death.
	273	F	16	C. S. M.	No Fluid obtained.	Point of needle broken. Death.
61	631	F	9	Tubercular Meningitis	Clear, Sterile.	Death.
61	404	F	9	C. S. M. and Enteric	Clear, W.	Plus Widal. Slow recovery.
61	162	F	7	C. S. M. and Tubercular Meningitis	Clear, W.	Death. No Spinal Meningitis.
	760	F	8	? Cerebral Tumour	Clear, Sterile.	Improved.
	773	M	11	Meningitis	Clear, Sterile.	Improved.

C. S. M. signifies Cerebro-spinal Meningitis. W. signifies that the diplococcus of Weichselbaum was found.

the abscess was then discovered and opened; but though breathing and swallowing were relieved, the child died a few days later of septic absorption. The second seemed to be broncho-pneumonia on admission, but some days later urgent dyspnœa came on, which proved to be due to an abscess similar to the last case. This was opened below the sterno-mastoid; she slowly recovered. The third was supposed to be diphtheria. The pharynx was examined first, in order to eliminate abscess, which however was discovered and treated. These three cases had all arisen from some cause which was never discovered; they were certainly not due to caries of the spine. They were all drained with ease: a small skin incision was made below the ear behind the sterno-mastoid, and then a pair of pressure-forceps pushed in till the point was felt by the finger in the pharynx on the other side of the mucous membrane, and a tube inserted. The quality of the voice when obtainable is the most useful sign for excluding laryngitis as a cause of dyspnœa.

Bleeding.—There have been so few cases, that it is not worth while tabulating them. A few for cerebral hemorrhage with lividity have not seemed to be of any practical value. More, for acute heart failure, have caused considerable relief, two of which certainly saved the patients' lives. Twice with acute heart failure the right ventricle was aspirated with an exploring needle; several drachms were easily removed, but without benefit. Although many have written that venesection has been allowed to fall too much into disuse, yet all attempts to revive it as a common procedure have failed, and presumably the majority who seldom practise it are right. One exception to this rule must be made in favour of eclampsia, in which it is rightly recognised as a very valuable therapeutic agent.

Abscesses.—Many times have incisions been made in quinsy. In more than half pus was not found, and in some of these great relief followed the puncture; in others, none; and in others, again, the symptoms seemed to be made worse. In those in which pus was found the relief was often immediate, but then these would have shortly discharged themselves. In not a few the abscess filled again, and either was punctured

ACUTE DYSPNŒA NECESSITATING OPERATION.

Vol.	Folio.	Sex.	Age.	Disease.	Operation.	Remarks.
50	1006	M	17	Acute Goitre	T.	Excision later.
	1063	F	29	Syphilitic Laryngitis and Pneumonia	T.	Died quite suddenly. Operation failed to restore breathing.
	1068	F	9	Tubercular Laryngitis	I. and T.	Death some weeks later.
52	505	M	54	Carcinoma of Œsophagus	T.	Dyspnœa came on quite suddenly from the bursting of an abscess. Lived comfortably 2 weeks.
54	163	M	2	Retropharyngeal Abscess. Admitted (?) Diphtheria	Opened behind sterno-mastoid.	Breathing quite relieved. Died of Toxæmia.
56	912	F	2	Retropharyngeal Abscess	Opened as last case.	Recovered.
	938	F	4 mo's	Retropharyngeal Abscess	Opened as above.	Cured.
59	893	M	58	Double Abductor Palsy	I. and T.	No cause discovered for the disease. Improved and tube left out. Still has dyspnœa six months later.
61	428	M	3	Nutshell in Larynx	T.	Shell found immediately.

T. signifies Tracheotomy. I. signifies Intubation.

a second time or discharged itself. Summing up all I have seen, I would say that incision seldom is contra-indicated and often is beneficial, but the routine practice of puncturing a quinsy is not of as great value as is generally supposed. I have known medical men who have often had this disease, which unfortunately has a tendency to recur, say that they were more satisfied, after trying both methods, to leave it to nature. Several parotid buboes have had to be opened, although parotitis apart from mumps most usually subsides. The cases which develop buboes, as is well known, are those with some abdominal disease, most often of a septic nature; but it is also noticeable that they seldom appear, except in patients suffering from a dry, foul mouth, which no doubt shows the ætiology to be infection through Stenson's duct. Two cases occurred of pyæmic abscesses following pneumonia; in both the pneumococcus was the only micro-organism found. Both patients recovered.

Progress of the Medical Sciences.

MEDICINE.

Formation of Red Hæmoglobin and of Corpuscles of the Blood.—Aporti[1] found that by feeding healthy dogs on an iron-free diet, and by bleeding them freely, a proportionate fall in the amount of hæmoglobin and of red blood corpuscles took place. After a certain number of bleedings the hæmoglobin remained at this lower level or still further decreased, whilst the red corpuscles gradually increased again. Injections of arsenic into these animals caused an appreciable increase in the number of the red corpuscles, whilst the amount of hæmoglobin remained unaltered. On the other hand, injections of iron did not affect the number of red corpuscles, but caused a rapid increase in the quantity of hæmoglobin. According to Aporti, there is therefore a certain amount of independence in the formation of red corpuscles and of hæmoglobin, and some substances, especially arsenic, increase the number of red cells; whilst others, iron *par excellence*, almost exclusively affect the formation of hæmoglobin.

[1] *Centralbl. f. innere Med.*, 1900, XXI. 41.

The Rôle of Iron in Blood Formation.—Hofmann,[1] in observations on the various new preparations of iron, showed that they were as well, but not better, absorbed than the ordinary inorganic salts of iron. The particular preparation does not matter, provided that it contains a sufficient quantity of iron. The use of preparations of hæmoglobin is so far wrong that the quantity of iron present in them is small, and very large doses must be taken to reach the amount contained in small doses of other preparations. He looks upon chlorosis as due to functional incapacity of the blood-forming organs of the bone marrow, either appearing at puberty or congenital, which in severe cases is combined with hypoplasia of the vessels (Virchow) and of the sexual apparatus. This weakness of the blood-forming organs is expressed in the lessened amount of hæmoglobin and altered (diseased) form of the red corpuscles.

Red Blood-Corpuscles and Hæmoglobin in the Pregnant and New-born.[2]—At the end of pregnancy in the mother, the amount of hæmoglobin is lessened by an average of 20 per cent., number of red blood cells by about 500,000 per c.mm. In women at the $7\frac{1}{2}$ to $8\frac{1}{2}$ month of pregnancy the numbers are rather higher. In new-born infants, on the average, the hæmoglobin is 120 per cent., and the red blood cells $6\frac{1}{2}$ millions per c.m. In prematurely-born infants the numbers are still higher. In the blood of new-born infants, especially of those born prematurely, there are numerous red blood corpuscles (microcytes) which stain with methyl-blue, and, according to the authors, are probably young forms.

Leucocytes in Pregnancy.—As the result of numerous observations, Nannicini[3] finds that in multiparæ there is practically no leucocytosis during pregnancy; although the white corpuscles are somewhat increased, they are within physiological limits. In primiparæ the number of the white cells is so large that it is justifiable to speak of a "Leucocytosis Gravidarum." The number of white corpuscles bears no relation to the period of pregnancy. In neither primiparæ or multiparæ is there a digestive leucocytosis; the number of leucocytes in the blood may even be less during the period of digestion.

Leucopenia is present in cases of influenza, when these are of the typhoid type, just as is commonly observed in enteric fever apart from complications such as pneumonia. So in cases of tuberculosis affecting the abdominal organs there is no leucocytosis, and often there is leucopenia. Many authors consider that the leucocytosis of infectious diseases is due to the passing out of the leucocytes from the lymph-glands from chemiotactic attraction. The chief lymphatic organs below the diaphragm being the spleen, the mesenteric and post-peritoneal glands, the simple follicles and Peyer's patches in the intestine, it is sugges-

[1] *Arch. f. path. Anat.* [etc.], 1900, clx. 235.
[2] Bidone and Gardini, *Arch. ital. de Biol.*, 1899, xxxii. 36.
[3] *Settimana med.*, 1890, liii. 32, 33.

tive that in those infectious diseases in which the functions of these glands are disturbed (enteric fever, intestinal tuberculosis, influenza of typhoid type) leucocytosis does not occur, just as in extensive affection of the intestinal glands no digestive leucocytosis takes place.[1]

Blood-regeneration in Chlorosis.—Schauman and v. Willebrand[2] found that under the treatment employed by them the improvement in the blood-state was shown rather in a rapid increase of the number of corpuscles than in their staining property. In the course of convalescence the average diameter of the red corpusles increased until it reached a maximum; this increase was due to a numerical decline of small as well as to an increase of large cells. In contrast to pernicious anæmia, in which during the first half of convalescence the red corpuscles stain as deeply or more deeply than normal, in chlorosis and traumatic anæmia the newly-formed erythrocytes are as a rule more or less deficient in staining material.

The Clinical Study of Anæmias with Leucopenia, by Decastello and Hofbauer.[3]—In spite of the difference in the etiology of the anæmias, there was in all cases, in which there was no disease of the glands, an increase in the percentage of lymphocytes present, and a corresponding decrease in the number of the neutrophil polymorphonuclear leucocytes. Leucopenic anæmias, which were complicated with diseases of the glands (spleen, lymph-glands), showed, in relation to the percentage of polymorphonuclear and mononuclear elements, a varying condition. The authors consider that leucopenia, as a sequel of anæmic states, depends upon injury to the leucocyte-forming organs, especially to the bone-marrow. Leucopenia is not, however, necessarily a sign of very bad omen, for it is found in some less serious diseases.

In 110 cases of pernicious anæmia analysed by Cabot[4] there were 57 men and 53 women, of whom 28 were under 40 years of age. No certain influence in causing the disease could be attributed to occupation, the menopause, syphilis, or intestinal parasites. Hemorrhages were present in 37 cases. The severity of the symptoms did not correspond with the blood-changes. Patients with 500,000 red corpuscles to c.m. often felt better than those with 1½ millions. On this account and on other grounds the author is of opinion that the disease is due to the action of a poison invading the body from the intestinal tract. In all cases under 2,000,000 red corpuscles to c.m. were found: in most there was a relatively high amount of hæmoglobin, in contradistinction to equally severe cases of secondary anæmia. Secondary and pernicious anæmia are two distinct diseases. The anæmia produced by the presence of the bothriocephalus cannot, however, be distinguished from per-

[1] Blum, *Wien. klin. Wchnschr.*, 1899, xii. 15.
[2] *Berl. klin. Wchnschr.*, 1899, xxxvi. 1, 3.
[3] *Ztschr. f. klin. Med.*, 1900, xxxix. 488. [4] *Am. J. M. Sc.*, 1900, cxx. 139.

nicious anæmia. The duration of the disease in most of the cases was less than two years. There are, however, cases of pernicious anæmia which run a mild course, and last even for six years, with temporary and striking ameliorations, independent of treatment.

The Metabolism in Severe Anæmia. — In four cases von Moraczewski [1] investigated the metabolism with reference to P, Cl, and Ca. A typical change was the small power of assimilation of the body, as evidenced by the slight nitrogen loss on a diet relatively poor in nitrogen, and still more clearly from the nitrogen-retention if N is added to the diet. This N retention is pathological, it is not due to good nutrition, but to bad dis-assimilation. The Cl retention is not so striking as in anæmias due to carcinoma and in chlorosis. In all cases there was an absolute loss of Ca. The excretion of Ca (and of Cl) is to be considered in relation to the fact that in pernicious anæmia the bones, and especially the medulla of the bones, are altered. Treatment with calcium salts had a good effect. In diagnosis it is probable that a case is one of pernicious and not of another form of anæmia, if there is a relatively large Cl excretion and an absolute Ca loss together with a lessened N and P excretion.

The Blood at High Altitudes.—Most authors who have studied the question of the condition of the blood during residence at high altitudes have found an increase of the red blood cells, as well as an increased amount of hæmoglobin, as a result of such residence. Jaquet, whose former researches had led him to the conclusion that the volume of the blood and quantity of hæmoglobin was increased, has lately [2] endeavoured to distinguish which of the chief factors present at mountain resorts—temperature, humidity, and air-pressure—is responsible for the blood-changes. The experiment was carried out on growing puppies of the same age, and the total amount of hæmoglobin and blood was estimated by washing out the body (blood-vessels) at the end of the experiment. 1. Temperature: No difference was found in the blood of animals kept at 2°–5°C., and those kept at 13°–16°C. under the same air-pressure and humidity for a period of six weeks. 2. Air-pressure: By means of special arrangements, three puppies were kept for four weeks under a pressure of 640 mm. Hg; a lowering of pressure of 100 mm. Hg, corresponding to the height of Davos. At the conclusion of the experiment a considerable increase was found both in the number of blood corpuscles (more than 1.5 millions) and also in the percentage of hæmoglobin (248 per cent.). On the effect of increased or decreased humidity Jaquet has not experimented, but from a critical study of the literature he concludes that the influence on blood-formation cannot be pronounced.

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[1] *Arch. f. path. Anat.* [etc.], 1900, clix. 221.
[2] *Arch. f. exper. Path. u. Pharmakol.*, 1900, xlv. 1. *u.* 2.

New Test for Blood in Urine.—To 10 cc. urine add 1 cc. ammonium sulphide and as much pyridin. According to the amount of blood present the fluid takes a more or less orange-red colour. With considerable quantities of blood this colour-change is constant. Although this colour-reaction is very sensitive, it is considerably surpassed in delicacy by the observation by means of the spectroscope of the hæmochromogen formed. The spectrum of hæmochromogen is quite distinct, even if no naked-eye colour-reaction can be distinguished.[1]

For the presence of blood in urine the well-known test of a blue colour with tinct. guaiaci and ozonised turpentine is often employed. Pus in urine gives a blue colour with tinct. guaiaci without the addition of any oxygen-giving body. As the urine may contain reducing bodies, which make the appearance of the blue colour difficult, it is best to filter the urine and do the test on the filter. In like manner in leukæmia drops of blood dissolved in water and filtered give a blue reaction on the filter with tinct. guaiaci. This property of pus of giving a blue colour with tinct. guaiaci depends on the action of nucleo-proteids, and is in all probability to be attributed essentially to the leucocytes and not to the lymphocytes.

NOTE.—For the above abstracts I am indebted to an article by Dr. R. Forstmann, "Neuere Arbeiten aus dem Gebiete der Physiologie und Pathologie des Blutes."—*Schmidt's Jahrb.*, 1901, cclxx. 138, 225.

J. MICHELL CLARKE.

SURGERY.

The **surgery of the pancreas** is now coming into line with that of the rest of the abdominal viscera, though the anatomical relations of the organ and its deep situation in the abdomen must necessarily prevent such radical treatment in the removal of malignant tumours as can be elsewhere adopted.

In the treatment of **pancreatitis** the greatest advance has been made, though the diagnosis and treatment of the acute forms presents much difficulty at present. The chronic forms, though frequently mistaken for malignant disease of the head of the pancreas or for gallstones in the common duct, have yielded a success beyond one's expectation. To open the abdomen in cases of advanced cholæmia and jaundice with enlargement of the head of the pancreas, and then to find that a cure is effected by draining the gall-bladder, is calculated to set one thinking as to the cause of the pancreatic enlargement. Such unexpected results have been largely instrumental in laying the foundation of the treatment of chronic pancreatitis. An address on pancreatitis,[2] delivered before the American

[1] Donogány, *Arch. f. path. Anat.* [etc.], 1897, cxlviii. 434.
[2] *Brit. M. J.*, 1901, i. 1129.

Surgical Association by Mr. Mayo Robson sets before us the chief points in the diagnosis and treatment of this affection.

That the pancreatic duct should be subject to an infective or suppurative inflammation is not surprising, when we remember that it opens with the common bile duct into the second part the duodenum, which usually contains septic organisms, especially when any catarrhal duodenitis is present. An obstruction of the common bile duct is shown by jaundice, but we have no pathognomonic sign of an occlusion of the pancreatic ducts, though extremely rapid loss of weight and fat necrosis would afford some clue. By fat necrosis is understood a splitting up of the fat into fatty acids and glycerine: the latter is absorbed; but the acids, being insoluble, remain in the cells and unite with calcium salts, forming yellowish-white patches of various sizes in the subperitoneal fat and in the omentum, mesentery, &c.

Hitherto, however, fat necrosis has only been discovered after the abdomen has been opened; but Robson thinks that physiological chemistry may perhaps help us in the diagnosis of these difficult cases by an examination of the urine alone, or of the urine, the blood, and the fæces. Glycosuria, lipuria, and fat in the stools are helpful in the diagnosis when they are present, and in one case I was able to make a correct diagnosis from the presence of sugar in the urine, but they occur too seldom to be of great practical value.

It is well known that there is a peculiar relation between pancreatic disease and serious hemorrhage, and the subject of hemorrhagic pancreatitis has received attention in this *Journal*[1] and elsewhere. Robson, after carefully considering the whole subject, has come to the following conclusions as regards hemorrhage in diseases of the pancreas:—1. That in certain diseases of the pancreas there is a *general* hemorrhagic tendency, which is much intensified by the presence of jaundice. 2. That hemorrhage may apparently occur in the pancreas unassociated with inflammation or with jaundice, or with a general hemorrhagic tendency. 3. That both acute and chronic pancreatitis can and do frequently occur without hemorrhage. 4. That some cases of pancreatitis are associated with local hemorrhage. The injection of glycerine is sometimes followed by hæmaturia, and Robson suggests that the glycerine set free in the tissues by the fat necrosis may possibly be the real cause of the local hemorrhagic tendency in pancreatic affections. In discussing these matters with Mr. Cammidge, it was suggested that the glycerine set free would become oxidised in the blood just like any other alcohol, and the oxidation product expected would be an aldehyde, but the tests employed failed to demonstrate this. In the course of these investigations, however, Mr. Cammidge found that if the urine was boiled for a short time with an oxidising agent, and then the phenyl-hydrazin test performed, an abundant crop of delicate yellow needles arranged

[1] 1897, xv. 44.

in sheaves and rosettes was produced. The untreated urine gave no such result; normal urine, morbid urines from gout, &c., and, most important, bilious urine from patients suffering from simple catarrhal jaundice, gave also negative results. The application of this test gave confirmatory results in two of Robson's cases—one of chronic pancreatitis and one of stone in the common duct without manifest affection of the pancreas—the crystals being obtained in the former, but not in the latter case.

Acute pancreatitis is accompanied by pain and vomiting, and simulates intestinal obstruction, leading to efforts to secure an evacuation of the bowels and relief to the distension, as in a case I operated upon at the Royal Infirmary a few months since. The treatment practically resolves itself into that of peritonitis, commencing in the epigastrium; but death nearly always occurs in cases in which the diagnosis of acute pancreatitis is confirmed.[1] (Richardson.)

An exploration should be undertaken through the mid-line in front above the umbilicus. After establishing the diagnosis by this means, a posterior incision, which must be a free vertical one in the left costo-vertebral angle so as to permit the insertion of the whole hand if necessary, will enable the diseased organ to be freely examined, and if necessary drained for the evacuation of pus and gangrenous material, without involving risk to the general peritoneal cavity. Robson thinks such an operation as imperative as the early evacuation of septic matter in perforative or gangrenous appendicitis.

Subacute pancreatitis is fortunately more amenable to treatment, as the symptoms are not so urgent as in the acute form. As a rule abscess formation occurs before operation is undertaken, but this is by no means necessary. If surgical treatment is decided upon, a median incision may be made in the middle line for exploratory purposes, and drainage effected through the costo-vertebral angle as described above. If the posterior incision is regarded as impracticable, the abscess may be aspirated and the cavity opened and packed with gauze, which may be brought forward through a large rubber tube, which will become isolated from the general peritoneal cavity in the course of forty-eight hours.

In **chronic pancreatitis** the drainage is indirect, and obtained by draining the gall-bladder by cholecystotomy, cholecystenterostomy, or duodeno-choledochotomy. Cholecystotomy has been performed in most of Robson's successful cases. Gall-stones, if present, should be removed, and the drainage must not be stopped before the bile has become healthy and not before the greater amount of bile is being passed by the bowel. Experience seems to show that cholecystenterostomy is not an ideal operation in the treatment of these cases. Barling[2] records

[1] *Boston M. & S. J.*, 1901, cxliv. 235; abstract in *Med. Rec.*, 1901, lix. 425.
[2] *Brit. M. J.*, 1900, ii. 1766.

a case in which the gall-bladder was joined to the duodenum with resulting cure of the jaundice and the other symptoms complained of, but the pancreas still remained enlarged. It is desirable to emphasise Robson's statement that the simulation of malignant disease of the head of the pancreas by chronic interstitial pancreatitis should not deter us from declining to operate in any case of distended gall-bladder when the patient is in a condition to bear it, or even in any case of chronic jaundice without distention of the gall-bladder where the general health is deteriorating, as, though it should be recognised that if the disease be really malignant very little good will be done and life may even be shortened or only prolonged for a short time, yet if the disease prove to be chronic pancreatitis a real and permanent cure may be brought about. If a calculus be felt embedded in the head of the pancreas or impacted in the pancreatic duct, it may be reached through the second part of the duodenum by laying open the papilla and exploring the duct, or by dividing the peritoneum passing between the duodenum and hepatic flexure of the colon and then cutting through the overlying pancreas on to the concretions. If the papilla common to the bile and pancreatic ducts be incised in the duodenum it does not require suture, and in the cases in which Robson has explored the ducts by the duodenal route there has been no serious hemorrhage; the anterior duodenal opening only requires closing by a mucous and a serous suture. Drainage of the right kidney pouch for twenty-four to forty-eight hours is generally advisable. Both in Robson's[1] and Barling's[2] cases the results have been most encouraging, and only one patient died as the result of the operation. The treatment of pancreatitis may, therefore, be regarded as established on a firm basis, and further developments may be expected.

JAMES SWAIN.

LARYNGOLOGY AND RHINOLOGY.

Nasal Respiration.—Nasal obstruction is often complained of by patients in whom examination fails to reveal any obvious cause, while, on the other hand, when partial stenosis of the passages does exist it frequently passes almost unnoticed by the patient; in other words, there is little correspondence between the degree of nasal stenosis and the subjective sense of obstruction to nasal respiration. Everyone has experienced the disagreeable sense of stuffiness in the nose which accompanies a cold in the head, which persists however freely the nose is "cleared" by blowing, and when actual stenosis is certainly non-existent. Buccal respiration in patients with adenoid growths, despite the prevalent belief to the contrary, is similarly due to the associated rhinitis rather than to actual occlusion of

[1] *Loc. cit.* [2] *Loc. cit.*

the nasal passages by the adenoid growths. Explanation of this clinical paradox is afforded by C. A. Parker's [1] observations on the air-currents in nasal respiration, by making patients breath naturally through the nose air impregnated with lycopodium powder. By noting the parts where the powder was most thickly deposited, the path of the inspired air through the nose was readily determined. These experiments proved that in normal noses the air impinges first on the anterior part of the nasal septal cartilage and then shoots upwards and backwards to the olfactory fissure, thence passing between the middle turbinated body and superior meatus and the corresponding portion of the septum; that is to say, the backward current of inspired air is along the highest part of the nasal passages. Very little air passes along the level of the middle meatus, and practically none along the inferior meatus. Posteriorly the powder was mainly deposited quite at the top of the choanæ, the upper portion of the septum, on the roof of the naso-pharynx, and on the Eustachian cushions. Expiration was determined by observing smoke puffed out through the nose, and appeared to be largely confined to the lower meatus. Hence very slight reductions of the anterior ends of the middle or inferior turbinate bodies, the removal of small polypi in the middle or superior meatus, or the cure of a chronic nasal catarrh, will often do far more to relieve a patient than more radical measures, which are too often addressed to the inferior turbinates, or than the removal of slight septal spurs or deviations which are outside the normal air paths.

Tuberculosis of the Larynx.—Too much and too little are claimed for therapeutical methods in laryngeal tuberculosis. The disease can only be eradicated in a relatively few favourable cases; but for the latter even lasting cures may often be obtained, and in a larger proportion the disease can be arrested for a time at any rate.

In opening a recent discussion on the local treatment of this affection, Middlemass Hunt admitted that all the bright hopes with which the writings of Krause and Heryng inspired us have not been realised, nevertheless "it is no exaggeration to say that thousands of lives have been prolonged and an incalulable amount of suffering averted as a result of the work which has been done in this field." [2] Palliative treatment, consisting of antiseptic and local anæsthetic applications, are alone desirable whenever there is extensive ulceration or infiltration, especially with much œdema or perichondritis, particularly if associated with high fever, loss of appetite, and advancing lung disease. But when ulceration is present, is superficial and not too extensive, in cases otherwise suitable, the application of strong lactic acid, varying in strength from 50 per cent. to the undiluted acid, should be well rubbed into the ulcerated surface once a week or a fortnight; if this strength of acid cannot be

[1] *J. of Laryngol.*, 1901, xvi., 345. [2] *Brit. M. J.*, 1901, ii., 877.

tolerated, it may be employed in weaker solutions of 20 to 30 per cent. Deep granulating ulcers of limited extent heal more rapidly when thorough curettement is done before the acid is applied. Barclay Baron[1] urged the use of inhalations of benzoin, creasote, menthol, &c., or intratracheal injections of guaiacol and menthol, but deprecated resorting to submucous injections. Lake[2] has obtained good results in some cases of localised deposit by excision with cutting forceps prior to applications of lactic acid. Watson Williams[3] emphasised the positive value of submucous injections of guaiacol in almond oil, biniodide of mercury in aqueous solution, and other germicides, where there was no ulceration, and where therefore it was undesirable to create an ulcerating surface. By such measures he had obtained lasting arrest of the laryngeal disease in several cases, although curettement and the local application of lactic acid of full strength still holds the first place in the radical treatment of laryngeal tuberculosis in the practice of the great majority of laryngologists.

Orthoform is proving a great rival to cocaine as a local anæsthetic in this disease. Sendziak[4] finds that it is really an excellent drug, which, applied either in the form of powder or in connection with menthol (Freudenthal: Menthol, 1.0 to 5.0, 10.0 to 15.0; ol. amygd. dulc., 30.0; vitelli ovorum, 25.0; orthoform, 12.0; aq. dest. q.s. ad. 100.0: fiat emulsio), by means of brushings or laryngeal syringes, produces anæsthesia and relief from pain, lasting usually a couple of hours, and at times as long as twenty-four hours. Sendziak has not only noticed an analgesic action in cases treated with orthoform, but also a favourable action upon the tuberculous lesions themselves, so that he regards "this drug as a very precious acquisition in the local therapy of laryngeal tuberculosis." Similar encomiums on the beneficial effect of orthoform were expressed by McCall,[5] especially when the drug was associated with resorcin. This combination, in proportions varying from one-third to two-thirds, applied every second day, had given him excellent results in cases with ulceration and exuberant granulations, such cases as are usually curetted. In flat superficial ulcerations, such as occur in the epiglottis, for instance, orthoform, combined with bismuth, morphine, or cocaine, answers better in his experience.

P. Watson Williams.

OTOLOGY.

The "**complete mastoid operation**" has received a new impetus by the work of Mr. Charles A. Ballance. In an interesting and important paper[6] read before the Royal Medical and Chirurgical

[1] *Ibid.* [2] *Ibid.* [3] *Ibid.*
[4] *J. of Laryngol.*, 1901, xvi., 223. [5] *Brit. M. J.*, 1901, ii. 881.
[6] *Med.-Chir Tr.*, 1900, lxxxiii. 125.

Society on January 23rd, 1900, this surgeon brought forward a modification of the operation, which was received with much favour, and which is being extensively practised at the present time. Mr. Ballance began by pointing out that the successful conduct of the operation for chronic otorrhœa requires the fulfilment of two conditions: (1) The removal of all disease by operation; (2) the healing of the large wound from the bottom.

In order to carry out the second condition, it had been necessary to tampon the cavity at frequent intervals with strips of dry antiseptic gauze. This process, however carefully carried out, is painful; and as it requires to be continued for many weeks or months before cicatrisation is complete, it is often neglected, and the result of the operation is not satisfactory. In order to obviate the painful, prolonged, and unsatisfactory after-treatment of the operation, he proposed that chronic otorrhœa should be treated by two operations instead of one. The first operation he would call *the operation for the removal of the disease;* the second operation he would call *the operation for the healing of the wound.* The latter would be attained by the epithelial grafting of the tegmina antri and tympani, of the inner walls of the antrum, attic and tympanum, and of the fresh-cut bone forming the anterior and superior walls of the inner extremity of the enlarged osseous meatus.

Description of First Operation.—The incision is made behind the pinna, and the latter held forward with a rake retractor. A round cross-cut burr, driven by an electric motor, is used to open the bony cavity, but when no motor or burr is available a gouge is recommended; and while this is being used a Stacke's protector serves to shield from injury the tuberosity which projects from the inner wall into the neck of the antrum, and contains the Fallopian aqueduct and the horizontal semi-circular canal. The posterior wall of the osseous meatus is removed with a pair of small, angular, bone-cutting forceps. Sharp spoons of various sizes are used to remove the diseased granulations and soft parts from antrum, attic and tympanum. The tegmina antri and tympani, and the inner walls of these cavities, should be left by the spoon clean and hard. A bright light is required to do this well, and temporary plugging with dry gauze is an important aid. The cartilaginous canal is next dealt with. Its inferior wall is divided vertically well into the concha. The cut in the concha is then carried with a curve upwards and backwards till it reaches the level of the anterior commencement of the helix. The posterior wall of the meatus is then pushed upwards and backwards, and attached in a special manner by one, two, or three silkworm-gut threads to the mastoid flap. The bone cavity is then plugged with gauze through the meatus.

Under favourable circumstances the second operation may be done a week later, but in adults not for two or three weeks.

Description of Second Operation.—An anæsthetic having been given, the original incision is again opened; this being easily accomplished by the handle of the knife. The pinna is now displaced forwards, and care taken to arrest all oozing from the granulating surface. The tympano-antral cavity must be rendered quite dry by little pieces of gauze held on forceps. Large epithelial grafts, as thin as possible, are now taken from the thigh or arm. If the surgeon is successful in cutting an epithelial graft large enough to cover the whole area of the granulating surface, it can be applied with advantage in one piece. The graft is best carried to the wound spread out on a microscope section lifter. It should be made to cover—(1) The anterior wall of the cavity formed internally by the anterior boundary of the tympanum and attic, and externally by the anterior wall of the enlarged osseous meatus; (2) the anterior part of the roof of the cavity formed by the tegmen tympani and the superior wall of the enlarged osseous meatus; (3) the inner walls of the attic and tympanum; (4) the tegmen antri; (5) the ridge formed by the Fallopian aqueduct; and (6) the inner wall of the antrum.

As an aid in pressing the epithelium graft firmly into the cavity, steel probes or stoppers are recommended with pear-shaped heads. As a protective to the grafts, gold-leaf should be applied over them and carefully pushed into position, after which a narrow strip of dry iodoform gauze is packed into the cavity and allowed to remain for a week. The gold-leaf may be left undisturbed for three or four more days; it should then be removed with forceps. Twenty cases are recorded, all more or less successful.

Dr. William Milligan, of Manchester, read a paper[1] at the section of otology at the recent Association meeting at Cheltenham, bringing forward some improvements in the above operation, recommending especially that, in order to avoid the constant oozing of blood at the second operation, the original incision should be opened the day before the second or grafting operation. He also recommended that the graft or grafts should be floated into position by filling the antro-tympanal cavity with warm salt solution. The graft is floated upon this fluid and the fluid sucked out by a pipette. He also preferred glass stoppers to those made of steel for pressing the grafts into position. Milligan's general experience of the grafting operation has been satisfactory.

W. H. Harsant.

[1] *Brit. M. J.*, 1901, ii. 893.

Reviews of Books.

Comparative Physiology of the Brain and Comparative Psychology. By Jacques Loeb, M.D. Pp. x., 309. London: John Murray. 1901.

Professor Loeb might have chosen a more satisfactory title for a work which contains much original and independent research. But if some of those who turn to this book for a well-balanced exposition of what is known of the comparative physiology of the brain may find their expectations only partially realised, and if some who seek information on comparative psychology may find that the area of the subject touched on is limited, still both classes of enquirers will find much of interest and value in the account which Professor Loeb here gives of his own and cognate investigations and experiments, and in the conclusions which he feels justified in drawing from them.

Starting with a consideration of reflexes, Professor Loeb enquires what part the central ganglia play in their production. He is of opinion that we must deprive them of all specific significance, not only in the case of simple reflexes and instincts, but also in that of spontaneous movements. Their importance lies in the fact that they, in common with other nerve structures, possess in an enhanced degree that irritability and conductibility which is a characteristic of all protoplasm. He seems at times to deny to them any distinctive *rôle* in the process of co-ordination; but what he is really anxious to eliminate from scientific exposition is any metaphysical power of co-ordination, and to show that seemingly purposive responses are in the lower animals and in some plants effected without the intervention of a nervous system. He lays stress on the part played by ions in the tissues and the liquids in which they are bathed, and regards many of the tropisms, which lie at the base of a large number of purposive movements, as sufficiently explicable in chemical terms.

The earlier chapters deal with the lower organisms in which the nervous system is little differentiated. Passing to higher animals, Professor Loeb lays stress on the fact that the central nervous system is essentially a connected segmental system, and he considers how far the brain, or in the invertebrates the supra-œsophageal ganglion, or its analogue, is a supreme co-ordinating centre. To a large degree his tendency is to deny to it any such office. At the same time he does not deny to it all regulative influence on the lower centres. The fundamental fact of comparative psychology is, according to his view, what he terms the activity of the associative memory, which in

vertebrates he regards as having its seat in the cerebrum. He is here putting in other words what is held to be true by not a few of those who have considered the problem of the part played by consciousness in animal life; and he might, perhaps, with profit have devoted a chapter to the anatomical connections and physiological means of influence of the seat of the "associative memory" on lower centres by means of the pyramidal tract or something analogous thereto.

The records of a large number of interesting and well-devised experiments—many of which have been published elsewhere—are here collected and will repay the careful attention of physiologists. The tone of the book is, however, a little egotistical and combative, and in some cases the author is less in antagonism with existing physiological teaching than he would lead his readers to suppose.

Studies in the Psychology of Sex. By HAVELOCK ELLIS. Pp. xi., 276. Philadelphia: F. A. Davis Company. 1901.

The first section of this book is concerned with modesty, and the author has succeeded in giving an admirable exposition of the origin, nature, development and influence of this sense. He regards it as the chief secondary sexual element in woman on the psychical side, lacking which she fails in attractiveness to the average and normal man. The two primary factors in modesty, he considers to be the sexual and social; the former involved in the defensive attitude of the female in sexual relationships (itself dependent on periodicity of function), the latter consequent on the attempts to avoid creating disgust by public performance of acts considered useless or disagreeable. Mr. Ellis shows that modesty is in its origin independent of clothing, anatomical modesty succeeding to physiological. When the danger of offensive action by the male no longer exists, clothing is adopted as an attitude of defence against his eyes. Yet further displacing ideas of disgust, it eventually becomes a means for heightening attraction; the civilised European woman, naked in the presence of others, feels mainly ashamed because revealing herself deprived of her weapons of seduction. This segment of the book is full of interesting matter. The second section deals with phenomena of sexual periodicity; it would be impossible to epitomise the views expressed in this place. The last chapter, on auto-erotism, contains a very valuable discussion on masturbation: the author has treated this important subject in the most capable and dispassionate manner. He concludes that the practice of the habit is not harmful unless carried to excess, and that it is seldom an excitant of insanity except in the presence of heredity. Also excellent is the treatment of the relationship between hysteria and sexual emotion. He indicates the distinction

between the response of the psychic sexual organism in the merely hysteroid state and in the morbid condition alone properly termed hysteria; this last may be regarded, in very many cases at least, as a manifestation of the sexual emotions—in other words, a transformation of auto-erotism. Mr. Ellis has shown, in the construction of his book, the thoroughness in research, clearness and delicacy of expression which we are accustomed to expect from him. We trust that the work may receive cordial recognition by those to whom it is addressed; at the same time we hope that every effort will be made by the publishers to limit the issue to thoroughly responsible persons, as appears their intention.

Annual and Analytical Cyclopædia of Practical Medicine. By CHARLES E. DE M. SAJOUS, M.D., and one hundred associate Editors. Vol. VI. Pp. viii., 1043. Philadelphia: F. A. Davis Company. 1901.

This volume is the last of the first series of this work. It is claimed that the completed work contains more than was promised, and a perusal of the general index of 108 double-column pages shows what a fund of information the six volumes contain. The articles commence with Rectum and Anus, concluding with Zinc. Some of the most notable are on rheumatism, diseases of the stomach, syphilis, surgery of the urinary system, and diseases of the uterus, all written by well-known authorities. The article on typhoid fever, by Dr. James E. Graham, of Toronto, is very complete, extending to 36 double pages. That on valvular diseases of the heart and endocarditis extends to 18 pages, by Dr. Herman F. Vickery, of Boston. It is impossible to speak too highly of the contents of these six volumes and of their mounting. The type is large enough for easy reading; there is no useless padding; there is a liberal diffusion of chromo-lithographic engravings and maps, the whole giving quite an encyclopædia of practical medicine which may well take the place of all others.

Asthma. By ERNEST KINGSCOTE, M.B. Pp. xii., 183. London: Henry J. Glaisher. 1899.

The review of this work has, owing to unavoidable circumstances, been somewhat delayed. It is probably now too late for any review to affect the sale of the work, and our remarks upon it will therefore be brief. In our opinion the book, as a serious contribution to the pathology and treatment of asthma, is of very little value. The author, to our mind, brings forward no satisfactory proof in favour of his hypothesis that asthma is due to the pressure of a dilated heart upon the vagus. The preface contains the following extraordinary advice: "The busy

practitioner, therefore, who may be unable to devote the time to these considerations, will do well to pass at once to Chapter xii., where the study of asthma proper begins." No practitioner can acknowledge himself to be not busy, and after taking the author's advice to skip the first eleven chapters, which, by the way, contain the preliminary investigations which are to establish the truth of the thesis propounded in the remaining five, we fear he is likely to skip these also.

Clinical Examination of the Urine and Urinary Diagnosis. By J. Bergen Ogden, M.D. Pp. 416. Philadelphia and London: W. B. Saunders and Company. 1900.

This is a well-written book, and gives a very complete account of its subject. One of its chief features is that it not only presents a full account of the chemical, microscopic, and spectroscopic investigation of the urine, which forms the first part of the book, but also in a second part describes the characters of the urine as altered in disease. Both parts are well done, the first being full in detail, and a trustworthy guide to the clinical examination of the urine; and the second, shorter than the first, giving a concise account of the changes in the urine in all forms of disease, and laying stress on points important in differential diagnosis. The nomenclature and division of diseases of the kidneys themselves is a little different from that commonly adopted in English text-books, and we should like to see some directions as to the order in which the various tests for proteid should be used clinically, in order to quickly obtain most information from them as to the variety of proteid present. The whole work is carefully written, is well abreast of the times, is well illustrated, clear in its directions and descriptions, and will be found a useful book of reference for the practitioner's bookshelf. It is nicely printed, and forms a handsome volume, reflecting credit on both author and publisher.

Diseases of the Thyroid Gland and their Surgical Treatment. By James Berry, B.S. Lond., F.R.C.S. Pp. xvi., 367. London: J. & A. Churchill. 1901.

This book is based upon the essay to which the Jacksonian Prize of the Royal College of Surgeons for 1886 was awarded, and upon the Hunterian Lectures which the author delivered in 1891; and it is evidently the result of much patient work and considerable experience.

Although it mainly treats of the surgery of the thyroid gland, yet the book contains much interesting information as to the causation and distribution of endemic goitre, especially with reference to its geographical occurrence; and the author

comes to the conclusion, which has been long held, that the true explanation lies in the geological structure of the ground and the influence of the water supply. He has found that endemic goitre is common among the Cotswold Hills, especially in the valleys. It is frequently met with in Stroud and its neighbourhood, also at Wotton-under-Edge and in many villages to the east of Cheltenham. It is also common at Clevedon and among the Mendip Hills. It does not seem to depend upon the hardness of the water, but goitre water always contains a large amount of total solid impurity. This theory as to the connection between drinking-water and endemic goitre has been often denied, and it is interesting to notice that so recent an investigator as Mr. Berry should return to the old theory. The most important part of the book is that which treats of the various operations for goitre. Enucleation is spoken of as the easiest and safest method in all cases of adenoma and in most cases of cystic disease. A word of warning is properly given as to the liability of recurrent hemorrhage after this operation. So many cases of this accident have occurred, that some surgeons are coming to the conclusion that extirpation is really the safer operation of the two; at all events, this liability should be borne in mind, and due care taken to avoid it as far as possible. Extirpation is fully described, and the various complications which may afterwards arise are plainly dealt with.

The author's operations for removal of goitre numbered 126, with only five deaths, and in his last 100 cases there was only one death. The book is the most complete on the subject of the surgery of the thyroid we have seen.

Clinical Lectures on Various Forms of Intra-Abdominal Suppuration. By A. H. TUBBY. Pp. 101. London: The Medical Publishing Company, Ltd. 1901.

This is a useful little book for students. The statements made in it are clear, and a definite plan of instruction is carefully followed. It will give to the student a very good general idea of the causes, signs, and treatment of intra-abdominal suppuration. The title is, however, rather misleading, for the first 56 out of the 91 pages are devoted to the consideration of appendicitis in its various forms—suppurative and non-suppurative. A better title for the book would have been "Appendicitis and Other Forms of Abdominal Suppuration." We most thoroughly agree with the author that it is impossible to forecast at the beginning of an attack of appendicitis what the outcome will be. There is no more treacherous disease. We do not think Mr. Tubby's statement on page 16, that the contents of an appendicitis abscess always contain a certain amount of fæcal matter, quite accurate. It

is, of course, often horribly foul, but not because it contains actual fæces. On the same page it is stated that general peritonitis may be either primary or secondary, and that in the primary form the appendix suddenly sloughs and sets up a peritonitis which is often fatal. But a perforation may set up a peritonitis without any primary localisation of pus; and, moreover, we have more than once found a sloughed appendix in a localised appendicitis abscess. On page 28 we are glad to see perforation of the appendix also given as a cause of general peritonitis, without the formation of any localised abscess. Surely the statement on page 24, which to call attention to its importance is printed in italics, is not carefully expressed. The author says: "In a case of declared appendicitis *the danger is extreme when the temperature is subnormal and the pulse over* 100." In a patient weakened by previous pyrexia, or even by an attack of appendicitis without such pyrexia, the pulse may run up to 100 from excitement, or remain at 100 from general weakness. We think the simple statement of the fact that a normal or subnormal temperature may be present in the most dangerous forms of appendicitis and in general peritonitis, one less likely to mislead the student.

In the consideration of the differential diagnosis of appendicitis we look in vain for guidance as to the diagnosis between a localised appendicitis and a diffuse infection of the peritoneum, and this is often a most anxious matter to the surgeon in charge of the case.

We are glad to see reference in these lectures to the importance of operating early enough and the dangers of delay. Mr. Tubby does not agree with those surgeons who advocate operation in all cases.

Hernia: its Etiology, Symptoms, and Treatment. By W. McAdam Eccles, M.S. (Lond.). Pp. viii., 231. London: Baillière, Tindall & Cox. 1900.

In this manual, as the author states in the preface, no attempt has been made to deal exhaustively with any division of the subject of hernia, and nothing new is to be found in it. But as a clear and concise description of the various forms of hernia, their diagnosis and treatment, the book deserves praise. We would specially single out for praise the chapters dealing with the application of trusses. This branch of the subject is dealt with in proportionately greater detail than are some of the others, *e.g.* the so-called radical operative treatment. In fact, we know of no better short account of the treatment of the various forms of hernia with trusses than that given here, an account which it will well repay the majority of practitioners to carefully study. The numerous excellent illustrations in the book constitute a special feature. It is somewhat disappointing to find the operative treatment of hernia not

more fully discussed. The book gives the operating surgeon but little help in the selection of a method, and but little information as to the results achieved by modern operations for the radical cure of hernia.

Stricture of the Urethra and Enlargement of the Prostate. By P. J. FREYER, M.D. Pp. 115. London: Baillière, Tindall and Cox. 1901.

This is a reproduction of clinical lectures delivered in 1900, in an agreeable form, but without an index. The teachings are generally sound, as one would expect from Mr. Freyer, but there are a few points to which we take exception. For instance, we cannot agree that "the friction caused by the urinary stream keeps up irritation, and may cause excoriation and ulceration at the seat of stricture." In the treatment of stricture by dilatation the author advises that if a false passage be present, the surgeon should persist in endeavours to find the true one: we have to assume that this applies to old false passages rather than recent ones.

It surprises us much to find that in using the Tevan-Maisonneuve urethrotome the incision is made and the scar results in the *roof* of the urethra, which is so much the more vascular. Perhaps the author has not fully considered this matter, for we can imagine such usage of the instrument placing the average operator in a dilemma. We have good reasons for knowing that Holt's dilator has not disappeared from practice, as is stated by Mr. Freyer. The suggested treatment of cystitis by irrigation with a *one* per cent. solution of boric acid is probably a verbal slip for a higher figure. The question of total enucleation of the prostate, which has been recently much under discussion, is solved in the writer's report on his case, which says: "After removal of these tumours no trace of the prostate could be felt between a finger in the bladder and one in the rectum, *the portion of the gland not involved in the tumours having been atrophied by pressure.*" Repeating the same report later on (*Brit. M. J.*, 1901, ii. 126), he says: "I could feel that there was no prostatic substance left behind." The title of his paper, "Total Extirpation of the Prostate," was therefore unfortunate, and his claim to a new operation must fail in favour of McGill in this country.

Uterine Tumours. By W. ROGER WILLIAMS. Pp. xvi., 359. London: Baillière, Tindall and Cox. 1901.

In this work the author has produced a very important contribution to the pathological study of new growths which affect the female generative organs.

The book is compiled with great care, and with what is almost a superabundance of statistical detail.

In the statistical portion proper some interesting points are brought out, one of which is the excess of carcinomatous neoplasms of the uterus over all others. This the author shows to be very marked, carcinoma of the uterus occurring in a proportion of very nearly 3 to 2 when compared with all other neoplasms of this organ.

The chapters on anatomy and development are very thorough and well illustrated, the illustrations of microscopical preparations being especially clear.

A very interesting chapter is that on the causation of cancer. We fear that in this many of the author's conclusions will not seem quite tenable, since statistical figures as a basis for argument have not that stability which might be wished, and frequently lend themselves equally to a precisely opposite deduction. The author hints that cancer is comparatively infrequent among vegetarians, prisoners, paupers, and lunatics,—in each of these classes the consumption of meat is small,—while the disease is comparatively frequent among the well-to-do and agricultural classes. As a matter of fact the great bulk of the agricultural population consume very little meat.

The chapters on carcinoma and fibroid tumours are especially interesting, and contain a wealth of valuable information.

The enormous amount of information contained in the work makes it almost impossible to compress any indication of its scope into a review. It is a monument of industrious compilation, and a most interesting contribution to the literature of the subject.

Points of Practical Interest in Gynæcology. By H. MACNAUGHTON-JONES, M.D., M.Ch., Q.U.I. Pp. ix., 124. London: Baillière, Tindall and Cox. 1901.

This little book consists of reprints of a series of papers in the *Edinburgh Medical Journal*, and is full of practical points presented in a very interesting manner. We quite concur with the author in his powerful advocacy of the means to secure asepsis which he adopts in all his cases, the more especially since in cases of so-called minor gynæcological operations there is a tendency to a dangerous laxity and want of method in preparation shown by many operators. His remarks on curetting are thoroughly sound; we are quite of his opinion that it should be done with the same care as any (so-called) major operation.

Of the six chapters, a most interesting and original one is that on the connection between diseases of the genitalia, neurosis, and insanity. The author brings almost startling evidence to show the large extent to which disease of the

pelvic organs is associated with mental disturbance, as shown by records of cases and of *post-mortem* and operation work on the female side of various asylums. This important chapter will well repay careful perusal.

We rather take exception to the use of foreign words, such as "lavabo," in a book of this kind; we fail to see its superiority over "basin-holder" or "washstand." Why not say "wood wool" instead of "Holtzwolle," and save the use of a dictionary?

Photographic Atlas of the Diseases of the Skin. By GEORGE HENRY FOX, M.D. London: J. B. Lippincott Company. 1901.

Dr. George Henry Fox's *Photographic Atlas of Diseases of the Skin*, of which the plates are coloured, most accurately portrays the lesions of skin affections. We have received parts i. to xii., in which we consider the coloured photographs are excellent and of a convenient size. Opposite each picture there is a description of the condition, with the different synonyms, and in addition to this there are general considerations of the treatment of skin diseases. Under the general considerations it is stated that, owing to the intimate relationship of the skin to other organs, cutaneous disease is usually of internal origin. To this expression of opinion we think some eminent dermatologists will take exception. At the same time, we agree that for the student of dermatological therapeutics the first thing to learn is the great importance of treating the patient, and not merely the patient's skin. It is well said under this heading that "diagnosis implies something more than merely giving a correct name to a pathological condition." On account of its prophylactic rather than its curative power, we endorse the suggestion of a daily bath. As the author says, the main object of a bath is to refresh and invigorate, not merely to cleanse, and that the cool bath taken every morning is capable of producing the greatest benefit. We are delighted to find that exercise as a dermatological remedy is insisted on, and that it is said to accomplish, in a large class of skin diseases, far more than a whole pharmacopœia. In the treatment of acne of the face, facial massage is said to have recently come to be a favourite mode of improving the complexion as well as the acne. For several years past the author has, in the treatment of acne, almost given up the use of ointments and lotions in his private practice, and, so far as local treatment is concerned, has relied almost entirely upon the benefit derived from the use of the ring curette. An enlightened view is taken in connection with the daily washing of the head or wetting of hair with the morning bath. Some authorities think that it has a tendency to induce premature alopecia. No facts, however, have been offered to substantiate this belief; and the author expresses his

firm conviction that frequent washing of the scalp, so far as it has any effect upon the growth of hair, is beneficial rather than injurious. As stated too, brushing of the hair should be thoroughly performed twice a day at least. Hair-brushes with thick and long bristles should be chosen; and stiff or wiry ones, which are liable to irritate the scalp, should be avoided. The condition known as pityriasis circinata, pityriasis rosea, lichen circinatus, or seborrhœa corporis, we have always considered to be purely local in origin. It is, however, stated to be undoubtedly of internal origin. It certainly occurs oftener in patients who sweat freely, but further than this we cannot go. In another edition it would be more satisfactory if the reasons for this opinion were given. Pemphigus is sometimes controlled by arsenic, which is often a remedy of great value, but we agree that it is by no means a specific in this disease.

The majority of cases of alopecia areata are evidently thought not to depend upon a parasite. But the current view among London dermatologists is, that a parasite is responsible for 95 per cent. of the cases. It certainly tends to occur in epidemic form in regiments and schools.

The printing is most clear, and the book a most readable one; and with the very beautiful and accurate plates, it will, we feel sure, be a valuable work for practitioners and students of medicine.

The Cause and Prevention of Decay in Teeth. By J. Sim Wallace, M.D. Pp. 101. London: J. and A. Churchill. 1900.

We are much indebted to Dr. Sim Wallace for giving us a book from his able contributions which have appeared from time to time in the *Journal of the British Dental Association* on "The Etiology of Dental Caries."

The headings of the chapters are sufficient to show how carefully and exhaustively he has gone into the subject, and it is not too much to say that it is a work that ought to be in the hands of every student and practitioner of dental surgery.

The author not only sets forth that dental caries is due to chemical action, but clearly explains that he is entirely against the vital action theory; and he lays great stress on diet. He says that pap and soft food collect around and between the teeth, and especially in places where there is an irregularity of the teeth arising from the overcrowding of the jaws, and that if wholesome natural food, such as whole-meal bread, had been the customary article of diet, the fibrous part of the wheat would have acted as Nature's tooth brush.

To sum up the author's arguments, we take it that decay of teeth is entirely due to the unnatural way we are fed and

brought up from birth—that is, in infancy, childhood, and manhood.

We certainly agree with him that the expecting mother should live an active and healthy life, so as to be able to give her offspring natural nourishment; and that the act of suckling develops the child's tongue, and if it becomes fittingly enlarged it presses out the arches of the jaws and makes them large enough for the growth of the teeth without crowding. But if the child is fed from a bottle, the hole in the mouthpiece of the tube is generally too large; and as no effort is necessary in sucking, the tongue loses the enlargement, and in consequence the jaws are not properly developed for the accommodation of the teeth.

The diet table in the last chapter but one is well worthy of notice, as it is the result of painstaking investigations and experiments extending over many years by an able practitioner who shows a thorough knowledge of whatever relates to dental surgery. Lastly, we heartily commend this book to the attention of our professional brethren as well worthy of a careful study, and as containing much practical and valuable information.

Motherhood. By CHARLES J. GLASSON, M.D. Pp. 91. London: John Bale, Sons & Danielsson, Ltd. 1901.—From the author's preface we learn that "this little handbook contains valuable advice to those young girls who are just about to get married, or have entered upon that state as young wives. Advice to mothers in regard to their daughters. Advice to schoolmistresses and others having the charge of young girls in regard to their training. Natural and artificial feeding of infants. It is intended as a help and a guide to those who have no knowledge of Motherhood, and contains nothing that will offend the modesty of any woman." We think the author has carried out his intentions with much common sense. It would save many a mother much difficulty if the statement (page 25) could be looked upon as infallible. He writes: "According as a woman is sparing or generous of fluid, sweet and starchy foods, so the size of her baby will be—small, if sparing; large, if generous. The happy medium is the best."

Our Baby: for Mothers and Nurses. By Mrs. LANGTON HEWER. Seventh Edition. Pp. viii., 154. Bristol: John Wright & Co. 1901.—There is no better guide, as far as we know, for the management and bringing-up of infants.

Hygiene and Public Health. By LOUIS PARKES, M.D., and HENRY KENWOOD, M.B. Pp. xix., 732. London: H. K. Lewis. 1901.—When a book reaches its fifth edition, it has already proved that it satisfactorily meets a very widespread want; but with each successive edition it becomes increasingly difficult to incorporate new information without destroying that continuity

of design, the value of which in imparting knowledge is perhaps, not always fully appreciated. The authors of the work under notice have done wisely in avoiding this difficulty by recasting the whole. The result is an exceedingly able summary of the widely-varied matter that comes within the ken of the medical officer. The description of practical laboratory operations is advisedly left in great measure to special treatises intended to be used test-tube in hand; but ample information is given as to the conclusions to be drawn from analytical data. On the whole it will be difficult to find a more concise, yet reliable, account of points to be considered in the maintenance of the physical well-being of centres of population.

Dental Surgery. By HENRY SEWILL. Fourth Edition. Edited by W. J. ENGLAND and J. SEFTON SEWILL. Pp. x., 622. London: Baillière, Tindall, & Cox. 1901.—This new edition of a well-known work is worthy of very high praise indeed. It is as good and useful a text-book as we know. It has been thoroughly re-written and brought up to date. The illustrations are very excellent. On the whole, we consider it fulfils in every respect the aims of its author.

Manual of Midwifery. By W. E. FOTHERGILL, M.D. Second Edition. Pp. xviii., 506. Edinburgh: William F. Clay. 1900. —The appearance of the second edition is sufficient evidence of the popularity of this work. In a previous review, published in the March number of this *Journal* for 1897, we pointed out certain places in which the portions of the subject treated required elucidation and addition, and certain statements to which we took exception. We do not find that any alteration has been made in this edition, and therefore repeat our previous criticism. The best parts of the book are the sections on the development of the ovum and placenta, and that on the mechanism of labour and the indications for, and methods of use of, the forceps. These give most complete and accurate descriptions of the processes mentioned. One or two very interesting observations are recorded, notably that by Milne Murray on the effect of hot and cold water respectively on the pelvic vessels, which gives most convincing evidence of the advantage of the hot intra-uterine or vaginal douche for securing uterine contraction. This is found under an excellent account of the *rationale* of the various methods of treating *post-partum* hemorrhage. Another interesting observation recorded is that by Milne Murray on the effect of pressure on the diameters of the fœtal head, showing how little those in the horizontal plane of the occipito-frontal diameter are affected. The author, in treating of the puerperium, speaks of vaginal douching with permanganate of potash as a cleanly and comfortable practice. We demur to the first statement entirely. We do not consider permanganate of potash, *as generally used*, either an

efficient antiseptic or even that it can be depended on to render water sterile. We know of one fatal case of septicæmia (infection with streptococcus erysipelatosus) traced to its use. Douching after labour is only safe if sterility of fluid, instruments, and operator's hands can be *insured*; if not, it is better omitted altogether. The remarks on the treatment of the nursing infant might well have been amplified; so far as they go they are excellent. We can recommend the book as a whole as a readable and accurate work.

Outlines of the Diseases of Women. By JOHN PHILLIPS, M.D. Third Edition. Pp. xvi., 280. London: Charles Griffin & Company, Limited. 1901.—It is four years since the last edition of this book appeared, and although the general arrangement of the book is the same as in former editions, the rapid advance of gynæcological science has made it necessary to revise some portions of the work, especially the chapters on uterine fibroids and ectopic gestation. With regard to the treatment of fibromyomata of the uterus, Dr. Phillips says that Apostoli's treatment is still on its trial, although in the majority of cases it is quite useless. Discussing the various operative methods of dealing with these tumours, he still advocates removal of the ovaries in certain cases, and looks upon hysterectomy as the last resource. After describing the intra- and extra-peritoneal methods of dealing with the stump, he says there is a growing tendency in favour of the former method. The author thinks that the majority, if not all, cases of extra-uterine pregnancy are primarily tubal, and evidently does not consider the recently recorded cases of primary ovarian pregnancy as convincing. The relative value of supra-vaginal amputation of the cervix and total extirpation of the uterus for cancer is at present, he says, not yet decided, although most authorities consider the former to be a useless proceeding. A very useful chapter has been added on the bacteriology of the genital tract. The book is essentially practical in its nature, and will be found of great value to the student and young practitioner.

Materia Medica and Therapeutics, with Special Reference to the Clinical Application of Drugs. By JOHN V. SHOEMAKER, M.D., LL.D. Fifth Edition. Pp. vii., 766. Philadelphia: F. A. Davis Company. 1900.—Owing to the rapid multiplication of new remedies, especially in America, the author of this standard treatise is issuing it in two forms. The present publication is the *Students' Edition*, and is confined to the consideration of the drugs in the British and United States Pharmacopœias and some of their chemical derivatives. Even with this restriction it extends to 766 pages of close print, and embraces a very large number of drugs, many of which are little known in this country. What the Physicians' or enlarged edition will extend to we hardly like to imagine. One of the most valuable features of the book is the vast number of pre-

scriptions and formulæ which are scattered through its pages. Thus, under cod-liver oil for instance, a dozen methods of making emulsions or special preparations of the oil are given, and an even greater number of formulæ are supplied in the chapter on bromides. The author, as a dermatologist, gives considerable prominence to the employment of various drugs in skin diseases, with copious suggestions as to the choice and combination of remedies. Other departments are, however, by no means neglected, and we observe numerous references to the most recent work by European and American writers. There is one difficulty against the use of the book in this country, from the fact that the difference in strength of British and American preparations is apt to be overlooked. Still, with this caution beforehand, the reader cannot help finding the work of constant use. The early chapters on prescribing are interesting, but too cursory. Thus, on page 47 the hydrostatic douche or fountain enema is mentioned, but no warning is given as to the dangers of too great pressure if the column of fluid is unduly high, or any account of the advantages of the method. The common rubber enema is described in a singularly clumsy sentence which contains one of the few Americanisms in the book: "It is easily operated and can be used as a self-injecting apparatus." There seem to be curious slips in the Latin phrases supplied as aids in writing prescriptions: "Omnis horis=every hour," "omni bihoris=every two hours," "pro ratione ætas=according to age," "more dictu=in the manner written," "macero=to macerate," "infrico=to rub in," "diebus tertius =every third day." This is the more remarkable as the book is elsewhere singularly free from misprints. It seems unfortunate, too, that though an imposing list of incompatibles is given, some of the more important are left to be gleaned from the articles on individual drugs. The hypodermic dose of apomorphia is given as one-eighth of a grain, which is rather large for ordinary use. The book is full of information, but the present edition will be thought by most readers in this country to contain either too much or too little for their purposes, since so many unimportant drugs are included and so many valuable ones omitted.

Transactions of the Ophthalmological Society of the United Kingdom. Vol. XX. London: J. & A. Churchill. 1900.—"The Ophthalmological Society of the United Kingdom" find, apparently, no difficulty in selecting from the interesting papers read during the session sufficient material to make an excellent volume, and in the "Transactions of their 19th Session" they present to the medical world a book well worthy of an extensive perusal. We are always struck at once with the beauty of the illustrations which are contained in this book, both of the fundus and external parts of the eye: their clearness and definition point to a great amount of care in their production. The Bowman lecture for the year is always included in these

Transactions, and the lecture in this number was ably given by Mr. R. Marcus Gunn, who chose as his subject "Visual Sensation," and discussed it in a most exhaustive manner. There are many other interesting papers and instructive short notes on various matters connected with this specialty, and we can confidently recommend the book to any practitioner who takes an interest in, and has a little time to devote to, the subject.

Annual Report of the Smithsonian Institution, 1896. Washington: Government Printing Office. 1898.—In the above report there are several articles to which the attention of readers of this *Journal* may be drawn. It must suffice, however, to indicate their titles and authors. The first is a discussion of the "Efficiency of the Animal as a Prime Mover," by R. H. Thurston, who reaches the conclusion that the vital machine must operate through methods of energy transformation as yet unknown to science. The second is Sir Michael Foster's Huxley Lecture on "Recent Advances in Science, and their Bearing on Medicine and Surgery." This is followed by Sir J. Burdon-Sanderson's Royal Institution Lecture on "Ludwig and Modern Physiology." Less well known to English readers is Dr. Simon Henry Gage's presidential address to the American Microscopical Society on "The Processes of Life Revealed by the Microscope: a Plea for Physiological Histology." Sir John Murray's paper read before the third International Zoological Congress on the "General Conditions of Existence and Distribution of Marine Organisms," and Dr. Heim's paper on the "Biologic Relations between Plants and Ants" will appeal to students of bionomics; while Dr. Theodore Gill's paper on "Some Questions on Nomenclature" will prove of interest to systematists. In his presidential address on "The War with the Microbes," Dr. E. A. de Schweinitz deals with bacterial poisons. There are in addition to the above several interesting anthropological papers, especially one, admirably illustrated, entitled "Preliminary Account of an Expedition to the Pueblo Ruins near Winslow, Arizona."

Transactions of the College of Physicians of Philadelphia. Third Series. Vol. XXII. Philadelphia: [W. J. Dornan.] 1900.—This volume contains many papers of great interest. Particularly interesting is an account, by Dr. Packard, of medical societies in the United States founded before 1787, and of some old certificates of proficiency in medicine; whilst Dr. Weir Mitchell prints some manuscript letters of Jenner which are in the possession of the College, and are not in any of the various lives of Jenner. We notice that the placarding of houses for contagious disease which is carried out by the Sanitary Authority in some cities in the States seems not to be a success, and entails so much inconvenience on the inmates of the house that the law, where it is in force, is very often evaded. There are a number of good contributions; perhaps as they form a valuable

group of papers on the same subject, we may specially call the attention of our readers to the articles by Dana on tic doloureux, and to those on the surgery of the Gasserian ganglion and fifth nerve by Drs. Keen, Spiller, Cushing, Davis, Dercum, and Abbe.

Transactions of the Medical Society of the State of New York. Published by the Society. 1901.—The President, Dr. A. M. Phelps, of New York, for his anniversary address, chose the subject of "Radical Cure of Inguinal Hernia," and he concludes his description as follows: "We have considered the subject of hernia from the beginning of the Christian era down to the beginning of this the twentieth century, and I believe that we have arrived at the last stage of perfection in the technique of the operation for its radical cure." Of the many other papers reported, it is difficult to select any for especial mention, as all of them show a degree of healthy vitality of which many other societies may well be envious.

The Edinburgh Medical Journal. New Series. Vol. VIII. Edinburgh: Young J. Pentland. 1900.—Of the numerous and original papers contained in this half-yearly volume, one of the most noteworthy at the present time is that by Dr. Vincent Dormer Harris on the feeding of phthisical patients in relation to the wasting of the body, in which he gives many important details on the two chief means at our disposal for the treatment of wasting in phthisis, even when there is marked fever present, by rest and regulated feeding.

The Edinburgh Medical Journal. New Series. Vol. IX. Edinburgh: Young J. Pentland. 1901.—This volume contains the reprint of the Morison lectures for 1900, delivered by Dr. G. W. Balfour. The subject chosen was "The Borderland," in which the ripe experience of the author could give many an interesting story. Dr. Horace C. Colman's analysis of eighty-seven cases of pernicious anæmia, with an inquiry into the after-history of twenty-two reported cures, is well worthy of study; as is also Dr. Frederick T. Roberts's rational and comprehensive study of the hepatic system.

Transactions of the American Laryngological Association. New York: Carey Printing Co. 1901.—The work of the American Laryngological Association is second to no other similar society in the world in point of quality, and a perusal of the *Transactions* for 1901 shows that the high standard of former years is well maintained. It is difficult to select any one paper for special praise, but we may allude to Bryson Delavan's masterly criticism on the statistics of the operations for malignant diseases of the larynx. Many interesting and rare cases are described by other writers in this volume.

Transactions of the Clinical Society of London. Vol. XXXIII. London: Longmans, Green, and Co. 1900.—As is usual in the transactions of this society, the papers which are brought

together in this volume form a most valuable and interesting series of clinical studies, every one of which is well worth reading. One of the most suggestive is that by Dr. Caton, on the "Prevention of Valvular Disease in Acute Rheumatism," in which he pleads that "we should regard each case of acute rheumatism, not merely as *rheumatism*, but first and before everything else, as *a case of impending peril to the heart*." In his hands the treatment that he recommends seems to have been of singular efficacy in warding off this complication. Mr. Barker records twelve cases of perforating gastric ulcer treated by operation, and in his paper gives a most ingenious and probable explanation of the disappearance of the liver dulness after perforation of the stomach. Messrs. Jones and Tubby give a further series of cases of angular deformity from Pott's disease treated by manual rectification. One of the conclusions that they come to is that "so far from inducing paraplegia, the operation is actually a curative measure." The volume is beautifully illustrated with photographs and skiagrams.

Transactions of the Medical Society of London. Vol. XXIII. London: Harrison and Sons. 1900.—The high standard of the papers brought before the Medical Society of London is fully brought out by the excellence of the present volume, which contains Sir William Banks's exceedingly able "Practical Observations on Cancer of the Breast," Dr. Caley's "Prognosis in Appendicitis," and other papers of equal interest and importance. It is impossible to read the book without finding the most modern views on the varied subjects of which it treats.

Medico-Chirurgical Transactions. Vol. LXXXIII. London: Longmans, Green & Co. 1900.—The present volume contains a full report of the discussion on the open-air treatment of tuberculosis which took place at one of the Society's meetings, introduced by a paper by Dr. J. Kingston Fowler. It will well repay a careful perusal, giving as it does a good epitome of our present knowledge of the subject. Another contribution of importance is a valuable paper by Mr. Charles A. Ballance on "The Conduct of the Mastoid Operation for the Cure of Chronic Purulent Otorrhœa." This paper is illustrated by several plates, rendering it easy to follow the details of the operation. Much of the technique introduced by Mr. Ballance is quite new, and although it is perhaps somewhat more complicated than is absolutely necessary in most cases, yet judging from the author's published cases it seems to yield better results than have hitherto been obtained.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Second Series. Vol. V. Enamel—Fyuner. Washington: Government Printing Office. 1900.—The present volume of this invaluable work includes 6,825 author-titles, 7,645 subject-titles of separate books and pamphlets, and 40,045 titles of articles in periodicals. It is indispensable to any medical library.

Editorial Notes.

University College: Faculty of Medicine.—For many years past the custom of an opening introductory lecture at the commencement of the medical session in the Bristol Medical School has been discontinued: the distribution of prizes has been the only public function, and even this had fallen into abeyance for the last five or six years. The Medical Faculty of the University College may this year be congratulated on their success in having obtained the services of **Sir Frederick Treves, K.C.V.O., C.B., F.R.C.S.,** to distribute the prizes and address the students on October 25th, 1901, in the large hall of the College, which was crowded by an enthusiastic audience, consisting of the College staff, the students, and their friends.

From the report of Dr. Markham Skerritt (the Dean of the Faculty) we learn that the Faculty of Medicine have much pleasure in recording the thoroughly satisfactory condition of their department, and the good work that has been accomplished during the past year, which is attested by the success of their students at the various examinations of the qualifying bodies. They have been much gratified at the excellent working of the arrangement whereby the Bristol Royal Infirmary and the Bristol General Hospital are amalgamated for clinical teaching. As the Bristol Royal Hospital for sick children and women and the Bristol Eye Hospital are also to be opened to their students, the total number of beds thus available for teaching is 602. Few schools of medicine offer to their students so wide and varied a field.

In the course of an exceptionally interesting and learned address, Sir Frederick Treves declared with truth that the medical man of to-day had become an actual factor in the state, and dealt with great questions, controlled enormous issues, and became weighted with great responsibilities. He characterised the profession of medicine as the "profession of romance." Was it realised that there was much more romance in the new worlds discovered in their profession than in the days of the old princely adventures that took place from the port of Bristol when Giovanni Cabotto sailed from Bristol? Could one imagine the feeling of the man who would one day

discover a cure for cancer? For it would be discovered. In conclusion, Sir Frederick remarked that a man must not follow the profession of medicine merely for the money it might bring into his pocket. In the numerous acts of unselfishness the profession displayed, in the pain it alleviated, and in the gratitude it earned, the medical man was one of the very few who could say: "I may not have gold of this coinage or of that, but I know something of the wealth which, in a very proper sense, is beyond the dream of avarice."

In the evening Dr. Skerritt presided at the Medical School dinner, held at the Royal Hotel, at which Sir Frederick Treves was the guest of the evening. Dr. Skerritt was well supported by the Right Hon. the Lord Mayor of Bristol and a large number of Bristol medical men and old and present medical students.

* * * * *

The **New Bacteriological Department** at the Bristol Royal Infirmary was opened by Sir Frederick Treves in the afternoon. In 1897, on the recommendation of the Faculty, an honorary bacteriologist had been appointed. His work was carried on under considerable disadvantage, owing to the inadequacy of accommodation provided for his department. In 1901 certain rooms near the Museum became available, and by some architectural ingenuity four convenient laboratories for bacteriological and pathological purposes have been provided. These rooms are lighted by electricity and well equipped with the most modern apparatus for bacteriological work. Sir Frederick Treves stated that "to establish a laboratory of the character of that of which Professor Stanley Kent would be hon. bacteriologist involved a considerable outlay of money. The question as to its need was answered by the fact that bacteriology stood at the very van of medical and surgical progress. Those who were interested in the charitable side of the hospital work must have some satisfaction in feeling that there was no handsomer present, no more suitable gift to any institution of that character, than a thoroughly well-equipped bacteriological laboratory." The old bacteriological department has done very useful work for some years, but the work had quite outgrown its limited accommodation. Now, however, this work can flourish and expand, and prove a great source of strength to the clinical work of the Royal Infirmary, under our very able colleague who has charge of it.

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In connection with the opening of the new bacteriological department, it will be interesting to recall the various **alterations that have recently been made at the Royal Infirmary**; and we

have given a brief *résumé* of these under the head of "Local Notes," p. 379, from which it will be seen, in spite of the difficulties associated with the alterations of an old building, and the absolute limitations of space at their disposal, the Committee of the Bristol Royal Infirmary have not been slow to institute such amendments and extensions as have been necessary to maintain the prestige of one of the oldest hospitals in the country, in which much good work has been accomplished for a period of over 160 years. It is worthy of note that these alterations and improvements have necessitated an expenditure of about twenty-five thousand pounds.

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At the *Annual Meeting of the University College, Bristol*, the Lord Bishop of Hereford stated that the report showed conclusively that the College was sending its roots deeper and deeper into the life of the city, and no one who had heard the report read, especially those pages dealing with the original work of professors, lecturers, and former students, could help feeling what a valuable addition to the intellectual life of the city was within the walls of the College. The Bishop, referring to the more general question of education and its condition in England just now, said they were reminded on all sides that one of the greatest calls upon Englishmen was to improve their higher education, both technical and general, and they noticed how in other places this call was producing very remarkable results. They had all observed how it had produced quite lately the new University of Birmingham, and those who had studied the question again observed what remarkable effect the establishment of this new University had upon the northern part of England, how it seemed likely to cause the development of three or four independent Universities. It looked as if before long there would be Universities for Manchester, Liverpool, and probably Yorkshire, and possibly one or two others added to the present list. In the face of this he would ask, Why not Bristol and West of England University also?

He hoped this question was being seriously considered by a great many of the citizens of Bristol, because if there was any city in England which, from its history, dignity, its great place in the life of the country, deserved to be the site for a University serving a wide area, he ventured to think that it was the city of Bristol. He looked forward, and hoped for the time with interest, to their having the Bristol University College and the Merchants' College as the first constituent colleges of the University of Bristol—"the lantern of the West" they would call it,—when the city would be the University home of the wide West of England.

* * * * *

By the death of **Sir William MacCormac, Bart., K.C.V.O.,** the Medical Profession loses one of its most distinguished members. The nation will not soon forget that by his offering his services to the British Government in connection with the South African War, he rendered most valuable help in the organisation of the medical and surgical work at the chief centres of the campaign. And there can be little doubt that the strain and anxiety involved in this patriotic work undermined his health and precipitated his death. In Bristol he will be remembered with gratitude for the kind and practical interest he displayed towards our oldest hospital, in coming down to open the new operating theatre in memory of Mr. Greig Smith.

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The public **Opening of the Newport and Monmouthshire New Hospital** by the Right Hon. Lord Tredegar, the Lord-Lieutenant of Monmouthshire, on August 5th, 1901, was signalised by a great demonstration of the Friendly Societies and trade associations of the district at Newport. These assembled at the Town Hall, and formed a large and representative procession, which paraded the principal streets of the town and then assembled in front of the new building, where the opening ceremony took place. The site for the hospital had been generously presented by Lord Tredegar, and one of the medical staff (Dr. Garrod Thomas) had shown his belief in the necessity for such a hospital by contributing the sum of £5,000 towards the cost; this in fact gave the start to the whole movement. The medical and surgical staff of the hospital must feel that their appeal for increased and improved hospital accommodation in Newport has met with a generous response from the numerous subscribers, who will no doubt be urged to continue their philanthropic work by providing funds for the continued maintenance of the hospital on a most liberal scale. Further details of the hospital, together with an illustration of the frontage, will be found under Local Notes, p. 380.

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The fourth resolution adopted by the **British Congress on Tuberculosis** is as follows:—"That the provision of sanatoria

is an indispensable part of the measures necessary for the diminution of tuberculosis." This provision is rendered all the more necessary from the fact that all our general hospitals have a rule by which cases of advanced consumption are considered to be inadmissible. It is true that this rule has been frequently allowed to fall into abeyance in the past, but in accordance with the modern views relating to the contagious character of the disease this rule is now being much more rigidly enforced; accordingly no hospitals are now available for consumptives, and special hospitals for them become essential both for those in the early and in the late stages.

There are eighty-three public sanatoria in Germany, sufficient to accommodate 12,000 patients annually. In England a few such sanatoria have been erected, but we are altogether behind both the Continent and the United States in this respect. One of the most complete sanatoria yet erected is that at Pinewood, about five miles from Woking. It has been recently erected at a cost of over £20,000 by Mr. Lionel Phillips and Mr. Rübe, under the charge of the National Association for the Prevention of Consumption. In our own district it is contemplated that the proposed sanatorium at Winsley will provide some accommodation for the counties of Bristol, Gloucester, Somerset and Wilts. The site has been purchased, the ground has been levelled, and the executive are only waiting some augmentation of the funds before entering into a contract for the building. The city of Bristol should be eager to do its share in the good work of curing, preventing, and stamping out tubercular disease from the world.

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For the following notes on **plague and diphtheria** we are indebted to our Medical Officer of Health, Dr. David S. Davies, and we would wish to direct attention to his paper on "The Policy of Rat-free Ships" which was recently read at the annual meeting of the Association of Port Sanitary Authorities[1]

Another paper by Dr. Davies, on "Plague and its Prevention as a Disease Communicable from Animals to Man," was published in the *British Medical Journal*.[2]

The fresh introduction (or is it recrudescence?) of plague into Glasgow, and the undoubted implication of rats, together with the appearance of the disease in Liverpool (whence, sea-borne or from Glasgow?) directs attention to its epizoötic nature, and prompts direct enquiry into the sufficiency of the methods at present directed against its importation. In the Bristol Port Report for 1900, the Medical Officers direct attention to this point, and argue with some force that measures designed

[1] *Vide Western Daily Press*, Oct. 30, 1901.
[2] 1901, ii. 337.

against a purely human disease, as are those of the Cholera, Plague, and Yellow Fever Order of 1896, while providing safeguards against the introduction of the disease by human agency, are impotent against the more subtle but proved possibility of its introduction by infected rats. This defect in the Order is imperfectly remedied by a Memorandum issued in April of this year, wherein the Local Government Board recommend, but do not provide, compulsory powers for certain measures designed to prevent the communication of ship rats, if infected, with shore rats; this Memorandum practically approves the steps which many alert Port Authorities had previously adopted without official sanction. In January, actual experience in Bristol had already demonstrated the wisdom of such precautions, and a ship from Smyrna, with many plague-killed rats on board, had been so handled as to prevent the transmission of infection ashore. The ship was overrun with rats, as, in addition to the 13 dead of plague on board, 213 others were subsequently destroyed by fumigation. The crew was, in this instance, absolutely unaffected; and this may readily occur, as the crew sails the ship, and does not necessarily come into relation with the work in the holds, into which, especially in grain boats, rats may readily be introduced from infected granaries. The danger is obviously to the labourers discharging infected holds. At the Cheltenham meeting of the British Medical Association, the Bristol Port Medical Officer followed up the subject. If the urgency of rat infection is admitted, and if Australia has succeeded in securing a service of rat-free merchant ships, why should England, or Europe, wait for the goad of disaster before adopting a similar simple and wise policy? At present, droves of rats, useless and annoying at all times, are permitted to be carried from port to port, multiplying the chances of infection manyfold. If this risk were removed, the risk of serious plague infection in Europe would be practically annihilated, for human introduction can readily be handled, as shown at Glasgow and Hull; whereas rat introduction, as demonstrated in Sydney, is no less than a calamity. And yet, so slowly does national intelligence move, a town with a single bubonic case of plague would be scheduled "infected" by the European powers, whereas the reported invasion by rats from an infected ship would probably escape serious attention. The question is international, as was the question of cholera, discussed at the Venice Convention. The new conditions of epizoötic implication need fresh international discussion towards a policy of rat-free ships, lest the blamelessness allowed by Koch to governments who are satisfied with regulations conceived before enlightenment be swallowed up in the sin of neglected opportunity.

The article on Plague in the *Quarterly Review* for October, 1901, gives a concise, graphic and most interesting history of

the disease, up to the first Glasgow invasion, but, curiously enough, omitting the Hull pneumonic outbreak. The writer, however, while admitting the importance of the danger averted in January in Bristol by the anticipatory precautions adopted against ship-borne rat-infection, and while recognising the epizoötic character of plague in general as the key to the situation, fails in the end to grasp the fact that the influence of "insanitary" conditions in spreading plague is chiefly or altogether a measure of the opportunities afforded by such conditions for rat-infection. This conclusion may, at any rate, be predicated for Western populations.

Diphtheria has not for many years been a source of great mortality or of special anxiety in Bristol. The mortality per 100,000 living for the ten years 1890–99 is shown by the Registrar-General to have been only 14, compared with a mortality rate for the 33 large towns of 33 per 100,000. In the year 1899 it was only 10, while in 1900 it rose to 31. Bristol was at length sharing in the Western recrudescence of this disease. But great as was the increase observed, other towns suffered more in proportion: thus, the Cardiff figures for 1899—1900 were 33 and 42, and the Swansea figures 136 and 58. The rise in Bristol, as in other towns, is independent of the "fever" rate, and bears no constant relation to the sanitary condition of affected towns; thus, while the fever rate of Leicester is only 18, over 10 years, the diphtheria rate rose in 1899 and 1900 to 106 and 151. The Medical Officer of Health lays great stress upon the importance of unsuspected nasal diphtheria in "carrying" the disease. This "carrier" form, which, he points out, may exist without any constitutional symptoms, so that the patient attends school and mixes freely with other children in the street or playground, is frequently a source of fresh outbreaks, and accounts for much of the difficulty in controlling this troublesome disease.

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It is now commonly understood that milk can be deprived of danger from all kinds of germs by raising it to the temperature known to be fatal to these germs. Less than the boiling temperature suffices for this purpose, and hence the custom is growing of submitting the milk to a process of what is called pasteurisation instead of complete boiling. This, however, has proved itself to be beset with fallacies, inasmuch as many cases of scarlet fever have recently been traced to milk which was called pasteurised. It behoves those who undertake to provide germ-free or sterilised milk to adopt every guarantee that their process is efficient; it is little short of a scandal that the victims of this abuse do not appear to have any legal remedy.

Notes on New Drugs and Preparations for the Sick.

Some new *preparations of pepsin and bismuth*, in various combinations, have been forwarded to us from H. E. Matthews, Clifton, viz. :—

Pepsinum Liquidum Fortior (MATTHEWS).—Each fluid drachm peptonises 25,000 grains of coagulated egg albumen by U.S.P. test.

Pepsinum Liquidum (MATTHEWS).—Each fluid drachm peptonises 2,500 grains coagulated egg albumen. Dose, 1 to 2 fl. drachms.

Liquor Bismuthi (MATTHEWS).—*Neutral* solution of bismuth-ammonium citrate, containing no additional alkaline citrate. B.P. strength. Dose, 1 to 2 drachms.

Liquor Bismuthi c Pepsino (MATTHEWS).—Each fluid drachm contains in a concentrated form Pepsinum Liquidum 3 j., and Liquor Bismuthi 3 j. Dose, 1 to 2 fl drachms.

Liquor Bismuthi c Pepsino et Euonymin (MATTHEWS).—Each fluid drachm contains in a concentrated form Euonymin Liquidum ♏ ij. (= 1 gr. Euonymin).

Liquor Bismuthi Salicylatis (MATTHEWS).—Of the Bismuth strength of the B.P. Liquor Bismuthi, but the Bismuth contained as Salicylate derived from *natural* salicylic acid. The product is neutral, and is incompatible with acids and strong alkalies, and with ordinary salts of quinine. Dose, ½ to 2 fl. drachms.

We have always found these preparations reliable, and the last-mentioned offers a particularly useful preparation for cases of gastric catarrh associated with the milder forms of rheumatism.

Guaiacum Resin in Capsule.—Messrs. BLAKE, SANDFORD & BLAKE, 49 Dover Street, Piccadilly, send us samples of their capsules, each containing five grains of powdered resin, not compressed, and therefore readily diffusible. The value of guaiacum resin is greatly diminished by the difficulty of its administration: when patients will take the mixture made with Pulv. Amygdalæ Co., this is doubtless the most efficient way in which full doses of twenty to thirty grains can be given; but the capsule form will enable many chronic gouty and rheumatic patients to take a small dose frequently.

Hydrochloride of Heroin.—BAYER & Co., Elberfeld.—This soluble salt of a very useful opium alkaloid gives an aqueous solution of neutral reaction, suitable for subcutaneous injection in doses of $\frac{1}{12}$ to $\frac{1}{6}$ of a grain.

Bromogene Health Candles; Health Night Lights (Fowler's Patents).—Messrs. CHRISTR. THOMAS & BROTHERS, Bristol.—Each candle contains about 1¼ grains of dibromo-naphthaline, equal to about two-thirds of a grain of bromine, so that one-tenth of a grain of free bromine is given off per hour.

Each night-light contains about 1½ grains of the haloid compound: as the night-light burns it diffuses into the air, gradually and uniformly, about $\frac{8}{10}$ grain of free bromine.

They are said to be useful in cases of colds, coughs, influenza, whooping cough, and all infectious diseases; also in bronchitis, asthma, &c. As a mental *placebo* they may doubtless be very effectual, but we question if the amount of bromine liberated is sufficient for any appreciable therapeutic activity.

Byno-Glycerophosphates; Byno-Hæmoglobin.—ALLEN & HANBURYS, London.—These new additions have recently been made to the Bynin series of malt preparations. The glycerophosphates have proved themselves of value in building up weakly frames and in restoring vigour to persons enfeebled by wasting illnesses: the bynin combination must provide a concentrated food of the highest degree of nutritive value.

The hæmoglobin compound may well be expected to give better results than the ordinary inorganic preparations of iron. One ounce contains one drachm of the preparation called hæmoglobin, and of this mixture the usual adult dose is half an ounce. The combination is quite palatable, and keeps well.

Palatinoids—Compound Glycerophosphates.—Messrs. OPPENHEIMER, SON & Co., 179 Queen Victoria Street, London.—In order to avoid the liability to decomposition of these unstable salts they have been prepared in palatinoids, which, being air-tight, preserve their contents from any decomposition arising from exposure to air. If glycerophosphates have all the virtues attributed to them, surely this must be one of the most useful palatinoids in the makers' lists.

Mist. Pepsinæ c̄ Bismutho (HUXLEY). **Glycerophosphates** (HUXLEY), Syrup and Tablets. **Benzo-Kinone,** $C_6 H_6 O_2$. **Kügloïds.**—38A Tamworth Road, Croydon.—The Anglo-American and Continental Pharmaceutical Company send us these samples.

The Pepsine mixture is of the ordinary type, containing pepsine, bismuth, hydrocyanic acid, nux vomica, and chloric ether, with a small dose of morphia. It is an elegant looking preparation of a combination which has a wide range of utility.

The Glycerophosphates are now quite taking the medical and the popular fancy. The combination is founded upon the idea that the spermatic fluid, of which Brown Séquard expected such great things, contains a highly concentrated form of glycerophosphates, and that the urine of neurasthenics contains a quantity of phosphates, also in the form of glycerophosphates. It has been shown by Dr. Albert Robin that glycerophosphates

have a tendency to stop the morbid elimination of phosphorus from the body.

The Benzo-Kinone is a non-caustic soluble derivative of guaiacol, dispensed in the form of a syrup elixir, containing ten centigrammes of the salt to the teaspoonful.

The Kügloïds are capsules of 20 centigrammes, containing 2½ centigrammes of glycerophosphate of quinine, dissolved in benzoate of creasote and eucalyptol. They have given good results in cases of bronchitis, influenza, and other lung conditions, such as febrile tuberculosis. They are taken in doses of ten or twelve daily.

Brand's Nutrient Powder from Raw Meat (Dence's Patent); **Brand's Fever Food.**—BRAND & Co., London.—Meat powders have not been altogether a success. Many have been introduced, but their popularity has been short lived, and patients who are induced to try them once do not usually ask for more. This powder should be more popular: it consists of powdered muscle fibre only, uncoagulated, but sterile and tasteless. One ounce is equivalent in nutritive value to four ounces of fresh lean meat. It may be given in many ways, and one to two ounces daily would suffice for the complete maintenance of the body weight under average conditions of the invalid's life.

The fever food is a combination of essence of beef, egg, and cream, manufactured especially for hot climates.

Tabloids.—BURROUGHS, WELLCOME & Co., London.

Quinine and Camphor—Quiniæ bisulphate gr. i., camphor gr. $\frac{1}{5}$.

Quinine, Belladonna, and Camphor—Quin. sulph. gr. $\frac{1}{4}$, ext. belladonnæ gr. $\frac{1}{8}$, camphor gr. $\frac{1}{4}$

Morphine and Emetine—Morphine sulph. gr. $\frac{1}{40}$, emetine gr. $\frac{1}{80}$.

Ophthalmic Tabloid.—Alum gr. $\frac{1}{250}$.

The quinine and camphor tabloid, and that with belladonna, are likely to be of value in the treatment of the early stages of catarrh, when they should be taken every hour.

The morphia-emetine tabloid should be an improvement on the old morphia and ipecacuanha lozenge whenever a sedative and expectorant are required.

The ophthalmic tabloid dissolves readily when placed in the conjunctival sac of the lower eyelid.

Diazyme.—FAIRCHILD BROS. & FOSTER, New York.—This essence is very rich in diastasic power, and may be relied upon to compensate for any deficiency of salivary and pancreatic digestion. It converts farinaceous substances into achroodextrines and maltoses, as is done in the intestines by the natural amylolytic enzyme. To aid intestinal digestion it should be taken between meals, two or three hours after food, in doses of one or two teaspoonfuls. It is an elegant preparation, which might be of much service in many conditions of defective intestinal digestion and mal-nutrition.

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the List in September:

November 30th, 1901.

J. Michell Clarke, M.D. (1) ... ... 3 volumes.
L. M. Griffiths (2) ... ... 14 ,,
The Representatives of the late J. E. Prichard, M.B. ... ... 1 volume.
S. T. Pruen, M.D. (3) ... ... 2 volumes.
Robert Roxburgh, M.B. ... Complete set of *Virchow's Archiv.*
The Council of University College, Bristol (4) ... 1 volume.
The Editor of the "Virginia Medical Semi-Monthly" (5) ... ... 1 ,,

FORTY-SECOND LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.
The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund or received through the *Journal.*

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MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

ANNUAL MEETING, *October 9th, 1901.*

After a vote of thanks to the retiring President (Dr. D. S. Davies) had been unanimously passed, Dr. BARCLAY J. BARON took the chair and gave the introductory address (see p. 289), for which a cordial vote of thanks was afterwards given.

The HONORARY SECRETARY (Mr. J. Paul Bush) read his Annual Report. He had to record that the Society had lost three of its

members—all Past-Presidents of the Society—through death; viz., Drs. W. J. Fyffe, S. H. Swayne, and A. E. Aust Lawrence. The balance in hand was £63 7s. 9d., together with £75 1s. 7d. on the *Journal* account. The report was adopted, and thanks given to the Secretary for his services.

The EDITORIAL SECRETARY (Mr. James Taylor), in his report for the year, stated that the cost of the production of the *Journal* had slightly increased owing to the number of illustrations published.

The HONORARY LIBRARIAN OF THE MEDICAL LIBRARY (Mr. L. M. Griffiths) gave his annual report, and stated that the Society's Library contained 9,371 volumes, and the Bristol Medical Library, of which the former was a part, contained 20,390 volumes and 227 periodicals.

The following officers were chosen for the ensuing year: President-Elect, Mr. G. Munro Smith; Honorary Secretary, Mr. J. Paul Bush; Honorary Librarian, Mr. L. M. Griffiths; Members of Committee, Dr. J. Michell Clarke, Mr. J. Dacre, Dr. B. M. H. Rogers, Mr. J. Taylor, Dr. H. Waldo, and Dr. P. Watson Williams; Members of the Library Committee, Mr. L. M. Griffiths, Mr. G. Munro Smith, and Mr. J. Taylor.

November 13th, 1901.

Dr. BARCLAY J. BARON, President, in the Chair.

Mr. T. CARWARDINE showed two patients: one, a case of sarcoma with spontaneous recovery; the other, a case of multiple lipomata. The first patient was a boy, 16 years of age. A tumour having the naked-eye characters of a sarcoma had been removed from the inner side of the right arm and from the axillary region adjoining. The removal was not complete, infiltrated muscle being left behind. The existence of enlarged glands in the left posterior triangle and left axilla had contra-indicated a "fore-quarter" amputation. It was a year since the tumour had been removed. The scar was healthy and the enlargement of the glands had disappeared. A section was shown under the microscope, and the appearance was that of a myxo-sarcoma. The patient had taken arsenic since the operation. The man with multiple lipomata had made the interesting statement that on two occasions the tumours had disappeared.—Mr. C. A. MORTON considered that the evidence of the glands on the left side being sarcomatous was not conclusive.—Dr. LACY FIRTH mentioned a case of primary sarcoma of the sartorius muscle he had treated by removing the upper half of the affected muscle. The patient, an old woman, developed erysipelas after the operation; but in spite of that and the toxins it must have formed, the tumour very quickly recurred.—Mr. ROGER WILLIAMS thought there was a tendency in the profession for men to believe what they wished to believe. He had never found in his researches that a case of malignant tumour had spontaneously disappeared, and he did not believe that such a disappearance ever occurred. It was the difficulty in diagnosis which led to reports of such disappearances. He thought there was no satisfactory evidence of the present case being one of sarcoma. Also, there were still nodules near the scar in the case, and nodular glands were present, and these might be due to recurrence. In the case of the man with fatty growth the analogies were with obesity and myxœdema, and the swellings were not true tumours. Probably they were the result of a tropho-neurosis. The speaker showed photographs of some similar cases he had seen. The leg seemed always to escape being involved. Such fatty growth was physiological in the Hottentots and some negroes.—Mr. CARWARDINE, replying, said that the appearance of the growth on

section was that of a malignant tumour, it infiltrated muscle, and the microscope supported that view.

Dr. E. C. WILLIAMS showed a child with an interesting cardiac murmur. The patient was 8 years old. There was no history of rheumatic fever or scarlet fever. The heart was only slightly enlarged, and that in an upward direction. The murmur was a loud one, continuous through the cardiac cycle, and heard best at the base, and with maximum intensity over the third left costal cartilage. There was a slight thrill in the third left intercostal space. The only symptom was some shortness of breath on exertion. There was no cyanosis. He put the question whether the case was one of pulmonary stenosis or of patency of the ductus arteriosus.—Drs. Michell Clarke, Stack, Kenneth Wills, T. Fisher, Markham Skerritt, and Elliott discussed the case.

Dr. W. H. NEWNHAM showed the following specimens:—(1) The parts removed in a case of ruptured tubal pregnancy. The patient had suddenly passed, a few days previously, into a state of shock and pulselessness. She rallied before coming to the Hospital. Nothing was felt on abdominal examination. At the operation blood welled up through the wound very copiously. Abdominal irrigation had been necessary to remove the clots. The patient was now well. (2) A pregnant fibroid uterus he had removed from a woman who was in the fifth month of pregnancy. The cervix was very high up, and the pelvis blocked by the tumour. The patient did well after the operation. (3) A uterus presenting several fibromata.—Dr. JAMES SWAIN thought washing out the abdomen with saline fluid a valuable step in operation for ruptured tubal pregnancy. Leaving fluid in the abdomen combatted shock. He had had a case of pregnancy complicated with fibroid disease in which the diagnosis was difficult, and which, like that related above, had been considered to be a case of extra-uterine pregnancy.—Mr. T. CARWARDINE showed a fœtus he had recently removed from the abdomen in a case of ruptured tubal pregnancy.—Dr. NEWNHAM replied that he preferred not introducing fluid into the abdomen if it could be avoided. He had diagnosed the fibroid disease in the case related, and the fœtal heart had been heard before operation, showing that the patient was pregnant.

Dr. T. FISHER showed two specimens—the first of actinomycosis of the liver and lungs, obtained from a case of appendicitis which had originated from perforation of the appendix by a pin. The pin had been found when the abscess had been opened during life. The subsequent course of the case was like that of pyæmia. The scattered lung abscesses were actinomycotic. The second specimen was a portion of the liver of a man who had died of emphysematous gangrene, showing cavitation from numerous small collections of gas in the organ.—Dr. JAMES SWAIN gave further details of the case of actinomycosis. He had operated several times. The pin had been found at the first operation in an abscess, but the operation had not shown where it came from. The boy went from bad to worse, developed pyæmic symptoms, and died in three or four months. The pus had shown only the bacilli communis and pyocyaneus.—Dr. MARKHAM SKERRITT related the case of a boy who for a long period had had an elevated temperature, for a long time unexplainable. Then slight enlargement of the liver was developed, and the diagnosis of actinomycosis suggested. The liver, where palpable, had a doughy feel. The case proved to be one of that affection.—Mr. PAUL BUSH mentioned a case he had repeatedly operated upon for actinomycosis during the past few years. The man still came up from time to time.

—Dr. FISHER stated that a perforation had been found in the appendix at the *post mortem*, which had probably been caused by the pin.

Dr. WALTER C. SWAYNE read a paper on three cases of abdominal section. Case I.: In this woman a few weeks after parturition the abdomen was opened for a large tumour, the size of a five-months' pregnant uterus. The tumour was found to have a peritoneal covering, and ultimately, after tapping, proved to be a large hydro-nephrotic kidney. It was removed by the abdominal route. The specimen was shown. A good recovery was made. Case II.: In this case the abdomen was opened soon after parturition. The patient was suffering from increasing abdominal pain, the temperature was rising, and a ruptured or twisted ovarian cyst was suspected. Laporotomy revealed a sausage-shaped swelling in the right broad ligament, which appeared to have resulted from the rupture of a blood-vessel in the ligament. Complete cessation of pain followed the operation, and the patient recovered well, except for an attack of phlegmasia fourteen days later. Case III.: The patient was a chronic invalid with irreducible retroversion of the uterus. Hysteropexy was advised. Both ovaries and tubes were buried in adhesions and the former cystic. They were removed and the uterus fixed in good position. On the third day the gauze drain, which had been applied according to the method of Mickulicz—a layer of gauze like a bag being first applied and then stuffed with gauze strips,—had to be removed under an anæsthetic.—Mr. C. A. MORTON alluded to the superiority of the method of emptying and removing hydro-nephrotic swellings by the lumbar route when possible.

Mr. JAMES TAYLOR read a paper on X-rays in the diagnosis of renal calculus. At the Bristol Royal Infirmary, during the last twelve months, he had been able to show the presence of renal stone in five cases. It was usually easy, with two to three minutes' exposure, to show such stones. He considered that a negative result was of some significance. The value of the method for detecting stones was great, in enabling surgeons to avoid the oversight of a second or third stone after one had been removed; and one of the cases recorded particularly illustrated this advantage of the use of the X-rays. Notes of the cases were read and radiographs of each shown. One case was in a boy only 13 years of age.—Mr. PAUL BUSH emphasized the importance of this mode of detecting the presence of more than one calculus.—Dr. JAMES SWAIN was not convinced of the negative value of these photographs. He alluded to the fact that phosphatic calculi yielded a deeper shadow than uric acid calculi, though the phosphatic varieties were less dense than those of uric acid. This was an exception to the usual rule, that X-rays gave a deeper shadow in proportion to the density of the objects examined. It was probably due to a special opacity of the lime salts in the phosphatic calculi.—Mr. C. A. MORTON mentioned a case in which he had found a stone in a stout man after failure of the X-rays to demonstrate its presence.—Dr. EDGEWORTH alluded to the case of the boy with stone which had been mentioned, and said that the hæmaturia and the other clinical symptoms had not indicated even which kidney was the source of the trouble, yet the X-rays had done this easily.—Dr. FISHER alluded to the presence of uric acid crystals in the urine of children, and to the probability of this causing hæmaturia.—Mr. FLEMMING alluded to the transparency to X-rays of plaster-of-Paris, *e.g.* fractures were visible through splints of this material, and asked what was the cause of the opacity of phosphatic calculi.

J. LACY FIRTH.

Local Medical Notes.

BRISTOL.

University College, Bristol.—George Parker, M.A., M.D. Cantab., has been appointed Physician, and Newman Neild, M.B., B.Ch. Vict., Assistant Physician, to the Bristol General Hospital. J. Paul Bush, C.M.G., has been appointed President of the United Kingdom Police Surgeons' Association. At the Royal Infirmary, Mr. E. C. Mackay, M.R.C.S., L.R.C.P., has been appointed Anæsthetist and Junior House Surgeon, and Mr. H. E. G. Boyle, M.R.C.S., L.R.C.P., Casualty Officer. At the Bristol General Hospital, Mr. E. R. Clark, M.B., B.Ch. Cantab., has been appointed Assistant House Surgeon, and Mr. J. E. Sparks, M.R.C.S., L.R.C.P., Casualty House Surgeon. In the Intermediate M.B. Examination of the London University, Messrs. J. D. Calcott, A. W. C. Richardson, and J. B. V. Watts were successful candidates. Mr. J. Phillips was successful in the Final F.R.C.S. Edin. Examination, and Messrs. J. C. Clayton, A. Coleridge, H. James, and J. E. Sparkes were successful in the Final M.R.C.S. Eng. and L.R.C.P. Lond. Examinations. At the Hospital for Consumption, Hampstead, London, N.W., Messrs. H. S. Jenkins, M.B. Lond., and S. R. Williams, M.R.C.S., L.R.C.P., have been appointed respectively Senior and Junior Resident Medical Officers.

Bristol Royal Infirmary.—Some of the principal Alterations and Improvements made at the Bristol Royal Infirmary during the past Ten Years.—For these notes we are indebted to Mr. Edward A. Leonard, the Secretary. In 1892 *Isolation Wards* for infectious diseases were built in the garden; in 1893 an *Obstetric Ward* was built at the top of the house where the nurses' dormitories had been vacated by the removal of their occupants to the Nurses' Home. In 1894 and 1895 the *Out-patient Department* was greatly extended and improved; and in 1896 a re-arrangement of some of the rooms made it possible to provide a *New Casualty Room*, larger and more conveniently situated than its predecessor. In 1897 there was a general *Renovation of the Wards*, and *New Sanitary Appliances* were provided in all parts of the building. In the same year the reconstruction of the *Operation Theatres* was commenced; and the completion of this work as a memorial to the late Mr. Greig Smith was a very protracted and expensive undertaking. In 1899 an important addition to the *Nurses' Home* was made by the erection of a large new wing, and the removal of the nurses from the old building to the enlarged new home made it possible to carry out other improvements, such as the provision of a comfortable ward for nurses who might be ill, also a cloak-room, lavatory, and sitting-room for their use. In this year also the *Steam Laundry* was much enlarged by the construction of a new storey; and it was improved by the provision of additional machinery, making it possible for the staff to wash some seven thousand articles per week. In 1898 an *Honorary Skiagraphist* was appointed; and three rooms have been fitted up for his department, one of these being a photographic dark room provided with the requisite apparatus. Great improvements have recently been effected in the Museum, the kitchens, the mortuary; and a general

re-construction of the house drainage system is now being carried on, which will provide effectual means for inspection, cleansing and ventilation of the drains.

NEWPORT.

DESCRIPTION OF THE NEW HOSPITAL.—The architecture of the building is Renaissance, and is faced with deep red bricks. The window dressings and horizontal bands are of Bath stone.

The Hospital has been designed on the pavilion principle, with the administrative block in the centre, and the accommodation provides for 84 patients.

The floors of the large wards are narrow pitch-pine boards, nailed to wood fillets set in fire-proof floor. The wards are heated by means of ventilating hot-water radiators on the low pressure system; and, in addition, each ward has a double central fireplace with descending flues. The sanitary fittings are of the latest approved patterns which scientific sanitary engineers have invented.

The operating theatre is placed close to the patients' entrance in the rear of the main corridor, with direct communication from same, and is provided with abundance of light from the sides, in addition to a large ventilating lantern light. The internal fittings of the operating theatre are all of special patterns, such as are now used in the best of the modern hospitals. Two white enamelled porcelain sponge sinks with marble trays, electro-plated wringer and service taps (hot and cold water) are provided on one side. The radiators are so fixed that the cold air supply is warmed as it enters the theatre.

Adjoining the theatre on one side is the anæsthetic room, in which are fixed the sterilizers on polished plate-glass shelves. On the other side is the hydraulic lift, known as the "Reliance," capable of taking a patient on a bed and an attendant to either of the two floors above. To work this lift a special water main has been laid on by the Corporation, connecting the high pressure mains on Stow Hill with the Hospital.

The administrative block, which forms the central feature of the Hospital, is devoted to the use of the executive and officials. It is entered from the terrace by a wide flight of steps. Passing through the outer vestibule and on through a glazed screen, the handsome entrance hall, 21 feet by 15 feet, is reached.

The whole building is constructed on the principle of a fire-proof building, and the various floors are all connected by means of a special fire alarm system to a central spot on the ground floor. In the event of fire breaking out in any portion of the building, on going to the nearest alarm post, of which there are two on every floor, a bell is rung on every floor, showing where the fire is, and the bells continue ringing until the attendant at the central spot has noticed the same.

The out-patient department has been built as a detached and distinct building fronting Cardiff Road, close to the main entrance to the Hospital grounds. The out-patients on entering, after passing the registration offices, enter a large waiting hall, on either side of which are arranged the medical, surgical, and ophthalmic consulting rooms. The internal arrangement of this block permits the patients, after being examined in one of the consulting rooms, to pass directly to the dispensary, obtain their medicine, and leave the building without returning through the waiting hall.

The in-patients' entrance is placed at the eastern end of the main corridor, and is approached from Cardiff Road by a carriage drive 16 feet wide. Adjoining the entrance on the right is the in-patients'

NEWPORT AND MONMOUTHSHIRE NEW HOSPITAL.

receiving room, where the patient is examined prior to being sent on to one of the wards.

The laundry and boiler house is a separate and detached building, situate at the rear of the main buildings.

In the basement under the centre of the administrative block are fixed the electrical transformers, the calorifiers for heating the whole of the buildings and those for the hot-water supply; the steam from main boilers being utilized to heat these calorifiers. Spacious storage rooms are also arranged in the basement.

The whole of the Hospital buildings and roadways are to be lit by electricity, supplied from the mains of the Newport Corporation.

The electric light installation consists of about 600 incandescent lamps and an arc lamp at the main entrance. The whole system of lighting is controlled from a main switchboard fixed in the centre of the ground-floor corridor, from whence sub-mains are led to fuse-distribution boards supplying the lamps of the various portions of the installation, each portion being thoroughly under control. The wiring is so arranged that the system can be easily tested, every eight lamps being controlled by a double-pole fuse on the sub-distribution boards.

In the corridors the lamps are arranged alternately on two circuits, with controlling switches to enable the amount of light to be varied.

In the six wards the lighting is arranged by means of two 3-light pendants at the ends and one 2-light pendant in the centre, each lamp being frosted so as to give a soft light. In addition a dimming coil apparatus is provided, by means of which it is possible to reduce the light of one lamp in each of the 3-light fittings from 16 candle-power to about 2 or 3 candle-power, to provide a dim light during the night when all the other lamps are extinguished. Between the beds, on the wall, plug connections have been arranged to enable portable lamps to be used for special examinations, etc., at night. These fittings may, if necessary, be hung on the wall over the bed, and a similar fitting also serves the purpose of lighting the night nurse's table.

The operating theatre will be provided with one of the latest pattern of adjustable fittings to turn the light at any angle on to the operating table. It is contemplated to fit up an X-ray apparatus and a suitable supply of electro-cautery devices. The electrical installation has necessitated the use of $2\frac{3}{4}$ miles of conduit and $8\frac{1}{2}$ miles of insulated cables and wires.

A complete gas installation has been laid on throughout the whole of the buildings for use in case of a failure in the electric light, or breakdown of any portion of the electrical machinery.

Obituary.

Dr. KENDALL.

From the *Western Morning News* of October 25th, 1901, we obtain the following particulars relating to the death of Dr. Kendall at Helston, at the age of 36:—"Very few but the most intimate friends of the family were aware that he had been indisposed for a day or two. He was away for several hours on Monday night attending a serious

case, and probably returning home in the early hours of the morning caught cold, which settled in his throat, resulting in laryngitis. He was attended by Drs. Henry and Wearne; and up to a short time before his death it was not thought that his condition was likely to have a fatal termination. The deceased gentleman, born in India, was the son of Surgeon-Major Kendall, now retired from the army, and living at Upper Norwood, London; but the family home had been at Tenby, South Wales, since leaving Clifton some ten or twelve years ago. In 1895 Dr. Kendall took over the practice of Dr. C. F. Seville on the latter leaving Helston, and soon became known as a skilful practitioner. Before coming to Helston he studied for some years at the Royal Infirmary, Bristol. At the November Municipal Election, 1898, Dr. Kendall was returned at the head of the poll, his term of office expiring at the end of the present month. Only a day or two since, owing to his numerous professional engagements, he declined to be again nominated for the Council. Two years and a half ago he married Miss Isobel Teresa Hamilton, second daughter of Mr. E. P. Kendall, J.P., Bank Manager, Helston, of which there has been issue a boy seventeen months old and a girl one month. The deceased was Medical Officer and Vaccinator for Wendron District. A few weeks since he resigned his position; but at the unanimous request of the Guardians, many of whom spoke in the highest terms of his skill, and more especially of his unfailing kindness and sympathy with the poor, he withdrew his resignation."

His old fellow-students and friends in Bristol will regret that the venerable-looking and genial Bernard Kendall should have succumbed so early in life, and will sympathise deeply with his young widow in her bereavement.

EDWARD STOCK, M.R.C.S.

It has been almost forgotten that this venerable member of an old Bristol family was in any way connected with the medical profession. From the *Bristol Times and Mirror* of November 20th we learn that Mr. Stock became a Member of the Royal College of Surgeons of England in 1841, and that he afterwards did good work in battling an epidemic of cholera. Since that time he has held many civic offices in Bristol, but is chiefly remembered as the Secretary of the Bristol Dispensary, an office which he held for about thirty years. He was also the first Secretary and Registrar of the Bristol University College. Very early in life he developed symptoms of phthisis, and for many years has been suffering from indications of cardiac weakness; nevertheless he survived to the age of 84, and died at Clevedon on November 18th.

The Fourteenth International Congress of Medicine.

THE FOURTEENTH INTERNATIONAL CONGRESS OF MEDICINE.—We have been asked to announce that in the above Congress, to be held at Madrid from the 23rd to the 30th of April, 1903, it has been decided to divide the eleventh of the sixteen sections into two independent sections; viz., IIA, Otology, and IIB, Rhino-laryngology. The sixteenth section (Médecine légale) will be entitled "Médecine légale et Toxicologie."

SCRAPS

PICKED UP BY L. M. G.

The Doctor's Fee.—In a paper bearing this title which Dr. John B. Roberts read before the Philadelphia County Medical Society, he makes from his personal experiences some alarming revelations concerning the commercial instinct of medical men. The *Medical News* of June 8th, commenting on the paper, says that to the professional vices mentioned by Dr. Roberts should be added those of advertising and exaggeration, and it gives instances of these to which reference should be made because the temptation to fall into some of these evil ways might come to somebody on this side of the Atlantic.

Malapropisms.—From a recent number of *Truth* I take these, which have a medical interest:—

"The sewage of St. Albans having created a great nuisance in the village of Park-street, certain of the inhabitants were getting up a memorial to the Corporation to abate the nuisance. An old woman declared that at first she could not abide the smell, but now she was getting manured to it."

"A little girl, writing a letter to her governess absent on holiday, wrote: 'Dear Miss Brown, I wish you posterity in the coming year.'"

"An old lady said that the War Office had neglected her son because he had very coarse veins."

A Doubtful Case.—"We hear from Taunton that at a General Quarter Sessions of the Peace for the County of Somerset held there lately, Mary Hamilton, otherwise George, otherwise Charles Hamilton was try'd for a singular and notorious offence. The Council for the King open'd to the Court. That the said Mary, etc., pretending herself a Man had married FOURTEEN WIVES, the last of which number was one Mary Price, who appeared in Court, and deposed, that she was married to the Prisoner, some little Time since, at the Parish Church of St. Cuthbert's, in Wells, and that they were Bedded as Man and Wife, and lived as such for about a Quarter of a Year, during which Time she, the said Price, thought the Prisoner a Man owing to the Prisoner's using certain deceitful Practices not fit to be mentioned.

"There was a great Debate for some Time in Court about the Nature of her Crime, and what to call it, but at last it was agreed, that she was an uncommon Notorious Cheat, and as such was sentenced to be publickly whipp'd in Taunton, Glastonbury, Wells and Shepton Mallet, to be imprison'd for 6 months, and to find sureties for her good Behaviour, for as long a Time as the Justices at the next Quarter Sessions, shall think fit."—*Bristol Journal, Nov. 8th, 1746.*

Medical Philology (XL.).—In the *Promptorium* is "Enyn̄, or brynge forthe kyndelyngys. *Feto.*" Mr. Way's note says, "The verb to ean or yean, which is commonly applied only to the bringing forth of lambs, here appears to have had anciently the more general signification of the word from which it is derived, Ang.-Sax. eanian, *eniti, parturire.*"

"Eanlings" and "eaning-time" as used by Shylock (*Merchant of Venice*, I. iii. 80, 88) are familiar examples of the restricted meaning of the word.

In reference to the spelling ean or yean, Prof. Skeat's *Concise Etymological Dictionary*, ed. 1901, should be consulted.

"Kyndelyngys" in the *Promptorium* definition is of interest. Prof. Skeat gives (*op. cit.*) "kindel" as Middle English for progeny, from the Anglo-Saxon "cynd," nature. A recollection of this and of the German *kind*, child, makes Hamlet's description of himself as "a little more than kin, and less than kind" full of meaning when it is remembered that he uses it as a commentary on the title "son" given to him by his uncle-stepfather.

We have almost Englished the German "kindergarten."

Clinical Records (37).—Dr. George Fordyce, who came in 1762 from Edinburgh to London, very speedily made himself a name by a series of public

lectures on medical science, which he afterwards published in a volume entitled *Elements of the Practice of Physic*, which passed through many editions. Unfortunately he was given to drink, and though he never was known to be dead drunk, yet he was often in a state which rendered him unfit for professional duties. One night when he was in such a condition, he was sent for to attend a lady of title who was very ill. He went, sat down, listened to her story, and felt her pulse. He found he was not up to his work; he lost his wits, and in a moment of forgetfulness, exclaimed: "Drunk, by Jove!" Still, he managed to write out a mild prescription. Early next morning he received a message from his noble patient to call on her at once. Dr. Fordyce felt very uncomfortable. The lady evidently intended to upbraid him either with an improper prescription or with his disgraceful condition. But, to his surprise and relief, she thanked him for his prompt compliance with her pressing summons, and then confessed that he had rightly diagnosed her case, that unfortunately, she occasionally indulged too freely in drink, but that she hoped he would preserve inviolable secrecy as to the condition he had found her in. Fordyce listened to her as grave as a judge, and said: "You may depend upon me, madam; I shall be as silent as the grave."—*Gentleman's Magazine.*

Medical Scholarship.—Dr. Irving H. Cameron, in his Presidential Address delivered before the Canadian Medical Association on the Overcrowding and the Decadence of Scholarship in the Profession, says: "That the literary side of the preliminary preparation for a medical education is nowadays too much neglected, and that a low level of scholarship obtains and is accepted, is abundantly evidenced by the characters of the answers given to examination questions, and by the questions themselves, by the applications and petitions of medical students to the various governing bodies, and by the formal announcements and kalendars of the Medical Colleges themselves. A comparison of the literary style of the medical text-books of to-day with that of the past generation enforces the same conclusions. Now this defect of scholarship is associated with, and to my mind, too oft begets defect of manners; and the courtesy and old-time courtliness of professional intercourse is rapidly disappearing. The pupil no longer greets his master with the outward evidences of profound respect, but commonly meets him on terms of equality. The practitioners of our art no longer manifest in their public intercourse and private conversation that deference which characterized the gentlemen of the old school. . . . Now I venture to group these two crying evils of our time—the over-crowding of the profession and its decadence in scholarship—together, because I believe the remedy for both is one and the same. Hear again what Mitchell Banks says upon the subject. . . . 'You can go on, no doubt, adding subject to subject, and examination to examination, but by so doing you only drive the student into further and further cramming. His serious defect at present is that, owing to the external cramming to which he is compelled to have recourse in order to master his subjects, he loses all power of thinking or reasoning for himself. He is being reduced to a mere grinding machine, which has to be well stoked up with scientific pabulum. . . . Well then, you ask, what is my remedy? My remedy consists simply in stiffening up the entrance examination.' . . . I am not one of those who think that a degree in science alone is the proper and essential precursor of entrance upon medical studies, but I hold strongly to my ancient faith in the *literae humaniores*—the basis of what was called in my younger days 'the education of an English gentleman'—as the proper substratum and foundation work upon which to build the superstructnre of a professional education. Such a course is particularly suited for the medical practitioner, doing away largely with the evils above complained of, exacting a higher degree of culture and refinement—thus diminishing the internal pressure of numbers, and by the establishment of a higher sense of professional character and conduct, effacing many of the crudities and barbarities which now obtain, for as Ovid long ago averred, 'Emollit mores nec sinit esse feros' . . . Having completed such a course with diligence and honesty, the new-born physician would enter upon his career of honourable usefulness with commingled modesty and confidence, and the evils which I have bemoaned at such length would cease in the land."—*The Montreal Medical Journal.*

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